DOCUMENTED RELEASE SAMPLING REPORT

FOR

JOHNNY M URANIUM MINE
GRANTS LEGACY URANIUM SITES
SAN MATEO AREA, MCKINLEY COUNTY, NEW MEXICO

Prepared for

U.S. Environmental Protection Agency Region 6
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Contract No. EP-W-06-042
Technical Direction Document TO-0035-11-11-01
WESTON Work Order No. 20406.012.035.0694.01
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FPN N/A
EPA SAM: Lisa Price
START-3 PTL: Patrick Buster

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665698

EXECUTIVE SUMMARY

The U.S. Environmental Protection Agency (EPA) tasked Weston Solutions, Inc. (WESTON®), the EPA Region 6 Superfund Technical Assessment and Response Team (START-3) contractor, to conduct Documented Release Sampling (DRS) at the Johnny M Uranium Mine located near San Mateo, McKinley County, New Mexico.

The Johnny M Uranium Mine was identified as a potential hazardous waste site and entered into the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) under CERCLIS No. NMN000607139. On 08 October 2009, the EPA conducted an Airborne Spectral Photometric Environmental Collection Technology (ASPECT) overflight of the San Mateo area and collected measurements for exposure rate, total count rate, and elemental uranium. Results from the ASPECT overflight indicated elevated radiation exposure rates and gamma radiation activity (total count rate). The ASPECT overflight results also indicated that elemental uranium was detected at concentrations that were greater than 45 picocuries per gram (pCi/g).

START-3 conducted DRS at the Johnny M Mine Site on 28 and 29 January 2012 that included collecting surface gamma radiation measurements in addition to conducting sampling and performing chemical/radiological analyses of surface soil. The specific sampling objectives for the DRS were to collect data that could be used to document a potential release of hazardous substances to the environment and to potentially warrant further site investigation and/or reclamation. Based on the results of the DRS sampling event, soil contamination attributable to the Johnny M Uranium Mine was documented via these contributing factors:

- Fifty-one of the 99 stationary 1-minute gamma measurement locations had readings higher than two times the mean background average reading of 11,720 cpm, indicating a documented release at the Johnny M Uranium Mine.
- Ra-226 soil sampling results from the Johnny M Uranium Mine ranged from 2.64 to 317 pCi/g. All eleven sample results exceeded three times the background Ra-226 result average of 2.69 pCi/g for the mine. This indicates a documented release at the Johnny M Uranium Mine.

- Arsenic, barium, calcium, molybdenum, selenium, uranium, vanadium, and zinc were detected in soil samples that exceeded three times background concentrations, indicating a documented release at the Johnny M Uranium Mine.

START-3 has prepared this Documented Release Sampling Report to describe the technical scope of work that was completed as part of the Technical Direction Document (TDD) No. TO-0035-11-11-01 under Contract No. EP-W-06-042 for EPA Region 6. The EPA Site Assessment Manager (SAM) was Lisa Price, and the START-3 Project Team Leader (PTL) was Patrick Buster.

☐ The EPA Task Monitor did not provide final approval of this report prior to the completion date of the work assignment. Therefore, Weston Solutions, Inc. has submitted this report absent the Task Monitor's approval.

X The EPA Task Monitor has provided final approval of this report. Therefore, Weston Solutions, Inc. has submitted this report with the Task Monitor's approval.

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***All figures are provided as separate portable document format (PDF) files.**

LIST OF TABLES*

***All tables are provided as separate portable document format (PDF) files.**

1. INTRODUCTION

WESTON, the EPA Region 6 START-3 Contractor, was tasked by EPA under Contract Number EP-W-06-042, TDD No. TO-0035-11-11-01 and Amendments A and B (Appendix G) to conduct Documented Release Sampling (DRS) at the Johnny M Uranium Mine located in McKinley County, New Mexico. Site coordinates are Latitude 35.362134° North and Longitude 107.724344° West. A Site Location Map is provided as Figure 1-1. All figures and tables are provided as separate portable document format (PDF) files. START-3 has prepared this DRS Report to provide the EPA with the field radiation scanning results and present the analytical data obtained during the field investigation performed at the Johnny M Uranium Mine.

1.1 SITE BACKGROUND

Under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), WESTON was tasked to perform DRS at the Johnny M Uranium Mine ("the Site") located near San Mateo, McKinley County, New Mexico.

The Johnny M Uranium Mine was identified as a potential hazardous waste site and entered into the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) under CERCLIS No. NMN000607139. On 08 October 2009, EPA conducted an Airborne Spectral Photometric Environmental Collection Technology (ASPECT) overflight of the San Mateo area and collected measurements for exposure rate, total count rate, and elemental uranium. Results from the ASPECT overflight indicated elevated radiation exposure rates and gamma radiation activity (total count rate). Figure 1-2 presents the ASPECT overflight exposure rate results. The ASPECT overflight results also indicated that elemental uranium was detected at concentrations that were in excess of 45 picocuries per gram (pCi/g). Additionally, according to the New Mexico Environment Department (NMED) Ground Water Quality Bureau Pre-CERLCIS Screening Assessment of the Johnny M Mine, issued August 2010, the last documented site reconnaissance was performed in July 2010 by the New Mexico Energy, Minerals and Natural Resources Department (NMEMRD).

START-3 has prepared this report to provide available background information collected for the Johnny M Uranium Mine, discuss the DRS activities, and present the analytical data obtained as part of the investigation.

1.2 OBJECTIVES OF THE INVESTIGATION

After reviewing the NMED memorandum and reviewing the results obtained from the ASPECT overflight, EPA concluded that an investigation was needed to determine if hazardous substances have been released to the environment from past historical mining activities and despite reclamation histories of the mine. This investigation is designed to provide a high-confidence determination by direct observation, field measurement, and laboratory analysis that a hazardous substance has been released at the mine site, termed a "documented release." The definition of a release under CERCLA (Section 101(22) is *"[A]ny spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant)..."* For the purpose of this investigation, a documented release can be established by chemical analysis that requires attributing the hazardous substance to the site, determining background concentrations, demonstrating that the concentration of the hazardous substance in a release sample is significantly increased above site background concentrations, and attributing some portion of the significant increase to the site. EPA will use this information obtained during the DRS to determine if additional investigation and/or reclamation is warranted and to prioritize those actions for all uranium mines in the Grants Mining District.

1.3 SCOPE OF WORK

The DRS Scope of Work is intended to describe the tasks requiring completion in order to evaluate the Johnny M Uranium Mine. As part of this DRS, START-3 performed the following major tasks:

- Prepared a site-specific Quality Assurance Sampling Plan (QASP), approved by the EPA, and Health and Safety Plan (HASP) prior to sampling activities.

- Evaluated the available information from the on-site observations, historical aerial photographs, area environmental information, and historical documents provided by the EPA.
- Conducted DRS field sampling/scanning activities on 28 and 29 January 2012. Samples were collected at various locations with the highest 1-minute stationary gamma measurements. The samples were collected in general accordance with the site-specific QASP and HASP to document the presence and migration of hazardous substances attributable to the Site.
- Submitted the DRS samples to National Environmental Laboratory Accreditation Program (NELAP) certified laboratories for analysis and reviewed and tabulated the resulting data.
- Compared the laboratory results to three times the background concentrations to establish a documented release.
- Prepared this report to present the findings of the DRS.

1.4 REPORT FORMAT

The DRS report contains the following sections:

- Section 1 – Introduction
- Section 2 – Site Characteristics
- Section 3 – Documented Release Sampling
- Section 4 – Summary
- Section 5 – References

Additional information is provided in the following appendices:

- Appendix A Digital Photographs
- Appendix B START-3 Site Logbook
- Appendix C START-3 Quality Assurance Sampling Plan
- Appendix D Laboratory Data Packages
- Appendix E Laboratory Data Validation Packages
- Appendix F Reference Documentation
- Appendix G TDD No. 0035-11-11-01 and Amendments A-C

Tables and figures cited in this report are provided as separate PDF files. Photographs taken during the DRS activities are provided as Appendix A. The START-3 field logbook notes are provided as Appendix B. The site-specific QASP is provided as Appendix C.

2. SITE CHARACTERISTICS

Information regarding the site location, description, and site history is included in the following subsections.

2.1 SITE LOCATION AND DESCRIPTION

The Johnny M Uranium Mine is within the Ambrosia Lake Mining District, located 17 miles north-northeast of Grants and 5 miles west of San Mateo in McKinley County, New Mexico. The reclaimed area of the Johnny M Mine Site is approximately 65 acres in size. The Johnny M Uranium Mine can be reached from Grants, New Mexico via Highway 605 north for 16.5 miles, then turning north onto a private gravel road for 0.5 miles until a locked gate is reached at the entrance to the Site.

2.2 SITE HISTORY

The Johnny M Mine was operated by Ranchers Exploration and Development Corporation (predecessor to Hecla Limited) from early 1972 to early 1982. The mining operations initially included mining uranium ore from approximately 900 feet below ground surface (bgs) followed by mining from approximately 1,200 feet bgs. To access the ore body, groundwater was discharged from the mine at a rate of approximately one million gallons per day and discharged ultimately to an outfall in San Mateo Creek. Two surface impoundments were created to treat the mine water discharge beginning in 1978 to meet New Mexico water quality criteria; the impoundments were approximately 100 feet x 400 feet x 15 feet each and were located just south of the mine operation. To prevent collapse of the underground mine as farther underground mining operations continued, Ranchers Exploration and Development Corporation slurried uranium mill tailings obtained from the Kerr-McGee Mill (now known as the Rio Algom Mill) as structural sand support in the stopes. Two surface locations were used for storage of the uranium tailings prior to injection into the mine stopes (Figure 2-1). According to New Mexico records, these two areas covered approximately 1 acre at the north injection site and 1 acre at the south injection site. An estimated 286,000 tons of tailings were injected into the mine. Injection depths ranged from 1,134 feet to 1,148 feet and from 1,162 feet to 1,183 feet bgs (using the shaft for datum), or about 1,100 to 1,300 feet, depending on the terrain.

Reclamation of the mine property began in early 1982. The mine shaft was sealed with a 4-foot-thick water-ring, reinforced concrete plug set between the Dakota and the Westwater members of the formation. The portal was sealed with a 12-inch-thick reinforced concrete plug, and a 20-inch-diameter capped, steel pipe was set in the concrete. The surface was then covered with earthen materials during site recontouring. The location of the shaft is not presently obvious due to the revegetated surface (Reference 1).

3. DOCUMENTED RELEASE SAMPLING

The specific information regarding field observations, sampling activities, background determination, gamma scanning and measurements, soil sampling, and deviations from the QASP are included in the following subsections (Reference 2).

3.1 OVERVIEW

START-3 was tasked to conduct DRS of the Johnny M Uranium Mine, including collecting environmental samples, gamma scanning approximately 10% of the Site, and collecting 100 stationary 1-minute gamma measurements. The specific sampling objectives were to collect data that could be used to document a release of hazardous substances to the environment as a result of historical mining operations. The Contaminants of Concern (CoCs) include all identifiable gamma emitting radioisotopes, specifically, the daughters of uranium-238 (U-238) and radium-226 (Ra-226). Additional CoCs include arsenic, molybdenum, selenium, and total uranium.

START-3 implemented the Quality Assurance Sampling Plan (QASP) at the Johnny M Uranium Mine Site on 28 and 29 January 2012. START-3 collected gamma measurements sufficient to provide approximately 10% coverage of the surface area of the Site. Figure 3-1 illustrates the assessment area. Mine area gamma radiation distribution results are presented in Table 3-1. In addition, 1-minute stationary gamma measurements were collected at 99 evenly spaced grid locations throughout the mine area. The stationary gamma measurements are listed in Table 3-2 and the locations are presented on Figure 3-2. In addition, 10 soil samples and 1 duplicate soil sample were collected at the 1-minute stationary locations that had elevated gamma activity. Sample locations are illustrated on Figure 3-2. Two background soil samples (Figure 3-1) were collected to the northeast and northwest beyond the perimeter of the mine area, and 1-minute stationary readings were collected at each location. The locations of the background samples are presented on Figure 3-1, and the 1-minute gamma measurements are listed in Table 3-2.

Surface soil samples were collected and submitted to a National Environmental Laboratory Accreditation Program (NELAP) certified laboratory for the following analyses: total metals including arsenic, molybdenum, selenium, and total uranium by Methods SW846 6010/6020 and

7470/7471, and all identifiable gamma emitting radioisotopes by Method LANL ER-0130 gamma spectrometry. The analytical data were validated by START-3. Laboratory analytical results for radioisotopes and metals are presented in Tables 3-3 and 3-4, respectively. The laboratory data packages are included in Appendix D. The validated laboratory data packages are included in Appendix E.

3.2 FIELD OBSERVATIONS

The site reconnaissance took place on 28 and 29 January 2012. The weather was sunny, with a high temperature of 40 degrees Fahrenheit and light winds. The mine area was generally flat, despite multiple deep ravines in the arroyo area, and was fairly uniformly covered in desert grass vegetation and shrubs, although grass/shrub density varied depending on location. During the site reconnaissance, it was noted that the surface of the mine area mostly consisted of a gray soil that appeared to be some type of fill and/or capping material. The site had significant snow cover accumulation and in the late afternoon became very muddy and wet. Gamma readings around the grayish colored fill were significantly more elevated than on other areas of the Site.

3.3 BACKGROUND DETERMINATION

The START-3 QASP (Reference 2) protocol determined the background for the individual site as the mean of the field measurements and laboratory results of samples collected from four locations at the perimeter of the property. These four sample locations correspond to the four cardinal directions of the compass (north, east, south, and west). The protocol indicates that a site background location should have similar physical, chemical, geological, radiological, and biological characteristics of the legacy mine site if there are no impacts from uranium mining and milling at the Site. START-3 collected two background soil samples to the northeast and northwest of the Johnny M Uranium Mine, where 1-minute stationary gamma measurements were also collected. It was determined that a representative background sample could not be collected south of the Johnny M Uranium Mine because the area appeared disturbed and was deemed to be an unsuitable background sample location.

3.4 GAMMA SCANNING

Due to the size of the Johnny M Uranium Mine, it was determined that approximately 10% of the surface area would be scanned using a 2 inch X 2 inch NaI detector held approximately 1 meter above the ground surface in conjunction with a Global Positioning System (GPS) unit. Although the reclaimed area of the Johnny M Uranium Mine is approximately 65 acres, only 31 acres of the primary historical mining area was assessed. Evenly placed transects were walked across the mine site from one end of the disturbed claim boundary to another. Each transect was approximately 10 meters apart. One-second measurements of gamma activity were recorded and electronically attached to the appropriate GPS designation for the subsequent plotting and depiction of the ambient gamma activity. A total of 11,172 gamma radiation measurements were collected from the mine-site, ranging from 9,261 cpm to 665,629 cpm. Johnny M Uranium Mine gamma radiation results and statistics are provided in Table 3-1 and on Figure 3-1.

3.5 STATIONARY GAMMA MEASUREMENTS

Stationary 1-minute gamma measurements were collected at 99 (10-meter) evenly spaced grid locations across the Johnny M Uranium Mine site, using the same type of instrumentation and at the same height above the ground surface as the gamma scanning measurements. Because the stationary measurements are integrated over 1-minute intervals versus 1-second intervals, the measurements provide a more accurate measurement of the ambient gamma activity at that point. The QASP protocol states that a single-point measurement greater than two times the background average concentration indicates a documented release at the mine (Reference 2). At the 99 total stationary locations, gamma measurements ranged from 6,288 counts per minute (cpm) to 381,092 cpm, with 83 measurements exceeding two times the background average measurement of 11,720 cpm. The stationary measurement locations and measurements are illustrated in Figure 3-2 and presented in Table 3-2.

3.6 SOIL SAMPLING

START-3 collected 10 soil samples (including 2 background and 1 duplicate sample) at 0 to 6-inch depths at locations identified by the stationary measurements as being suspect. Figure 3-2 depicts the sampling locations, and Table 3-2 presents the 1-minute stationary gamma measurements at each sample location. Surface soil samples were collected and submitted for total metals including total uranium, molybdenum, tin, and mercury by Methods SW846 6010/6020 and 7470/7471, and all identifiable gamma emitting radioisotopes by Method LANL ER-0130 Gamma Spectrometry. The QASP states that if any sample contains U-238 as determined by alpha spectrometry or Ra-226 as determined by gamma spectrometry at a concentration equal to or greater than three times the mean background average concentration, the Site will be identified as having a documented release (Reference 2). All 11 soil samples from the Johnny M Uranium Mine exceeded three times the background average concentration for Ra-226. The analytical data were validated by START-3. The metals and radioisotopes laboratory results are included in Tables 3-3 and 3-4. Laboratory data are presented in Appendix D, and the validated laboratory data packages are included in Appendix E.

3.7 DEVIATIONS FROM THE QASP

The following deviations from the QASP occurred during the field work:

- A suitable background sampling location on the southern side of the Site was not located due to the topography and disturbed nature of the site. Background locations should have similar physical, chemical, geological, radiological, and biological characteristics as the legacy mine site.
- Only 99 of the 100 stationary measurements were collected. One of the locations was omitted due to very deep snow levels.
- During the site reconnaissance, significant amounts of snow were present on the site (up to 5 inches deep in some areas). During the afternoon hours, the site became very moist and muddy. Moisture in soil serves to both increase and decrease the gamma signal when compared to an identical situation without moisture when the main contributor to terrestrial radiation is uranium. The moisture fills the normally empty soil pores with water and thereby increases the shielding effects of the soil and decreases the detectability of gamma rays that are emitted. Also, water reduces the rate of radon emanation from the soil, holding in a higher percentage of the radioactive gas and its decay products. However, due to the substantially elevated levels of gamma radiation activity on the site, this is not expected to have an effect on the findings of this DRS report.

4. SUMMARY

START-3 conducted DRS at the Johnny M Mine Site on 28 and 29 January 2012 that included collecting surface gamma radiation measurements in addition to conducting sampling and performing chemical/radiological analyses of surface soil. The specific sampling objectives for the DRS were to collect data that could be used to document a potential release of hazardous substances to the environment and to potentially warrant further site investigation and/or reclamation. Based on the results of the DRS sampling event, soil contamination attributable to the Johnny M Uranium Mine was documented via these contributing factors:

- Fifty-one out of the 99 stationary 1-minute gamma measurement locations had readings higher than two times the mean background average of 11,720 cpm, indicating a documented release at the Johnny M Uranium Mine.
- Ra-226 soil sampling results for the Johnny M Uranium Mine ranged from 2.64 to 317 pCi/g. All eleven soil sample results significantly exceeded three times the background Ra-226 result average of 2.69 pCi/g. This indicates a documented release at the Johnny M Uranium Mine.
- Arsenic, barium, calcium, molybdenum, selenium, sodium, uranium, vanadium, and zinc were detected in soil samples that exceeded three times the background concentrations, indicating a documented release at the Johnny M Uranium Mine.

5. REFERENCES

1. URFO (Uranium Recovery Field Office). Termination Of The Source Material License Issued To Hecla Mining Company For The Johnny M Mine, San Mateo, New Mexico. 21 December 1990.

2. Weston Solutions, Inc. Quality Assurance Sampling Plan for the Johnny M Uranium Mine, Grants, McKinley County, New Mexico. December 2011.

APPENDIX A

DIGITAL PHOTOGRAPHS

To View Photographs:

Open the folder: Appendix A Digital Photographs

Double Click on the file: Click here to view Photo

EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: IMAG0366.jpg

Photo Type: Overview

Direction: N/A

Date/Time: Jan 28 2012 9:37AM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: Vent hole present on property adjacent to mine site, immediately north of the arroyo.

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EPA Response Manager Photo Report

Browse Photos   Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: IMAG0361.jpg

Photo Type: Overview

Direction: S

Date/Time: Jan 28 2012 10:05AM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: View across the site to the south. Picture was taken south of the arroyo.

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EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1281045.jpg

Photo Type: Overview

Direction: NE

Date/Time: Jan 28 2012 11:06AM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: Exposed pipe across the top of the arroyo.

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EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1281047.jpg

Photo Type: Overview

Direction: SW

Date/Time: Jan 28 2012 11:07AM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: View along the arroyo towards the Zuni Mountains.

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EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1281048.jpg

Photo Type: Overview

Direction: NE

Date/Time: Jan 28 2012 11:07AM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: General view of the site on the south side of the arroyo.

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EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name:	Johnny M ORS
Incident Name:	Johnny M Uranium Mine ORS
Photo Name:	P1281046.jpg
Photo Type:	Overview
Direction:	N
Date/Time:	Jan 28 2012 11:07AM
Latitude:	0
Longitude:	0
Photographer:	Patrick Buster
Witness:	Patrick Buster
Caption:	What appears to be a pump station located on the minesite, immediately north of the arroyo. Note the exposed pipe trending across the arroyo.

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EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1281049.jpg

Photo Type: Overview

Direction: E

Date/Time: Jan 28 2012 11:07AM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: View across the site along the bank of the arroyo.

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EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1281050.jpg

Photo Type: Overview

Direction: SE

Date/Time: Jan 28 2012 11:07AM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: Southern bank of the arroyo. The picture was taken from the bottom of the arroyo bed, which was dry during the site reconnaissance.

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EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name:	Johnny M ORS
Incident Name:	Johnny M Uranium Mine ORS
Photo Name:	P1281051.jpg
Photo Type:	Overview
Direction:	N
Date/Time:	Jan 28 2012 11:24AM
Latitude:	0
Longitude:	0
Photographer:	Patrick Buster
Witness:	Patrick Buster
Caption:	View along the arroyo and adjacent property boundary towards the old Johnny M Mine entrance.

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EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1281052.jpg

Photo Type: Overview

Direction: S

Date/Time: Jan 28 2012 11:24AM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: View along arroyo and adjacent property boundary.

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EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1281054.jpg

Photo Type: Overview

Direction: N

Date/Time: Jan 28 2012 11:31AM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: Close-up view of what appears to be an old pumphouse on the mine site.

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EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1281053.jpg

Photo Type: Overview

Direction: SE

Date/Time: Jan 28 2012 11:31AM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: View across the arroyo near the old pump station.

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EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: IMAG0362.jpg

Photo Type: Overview

Direction: S

Date/Time: Jan 28 2012 11:49AM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: View to the south from the northeast corner of the mine site.

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EPA Response Manager Photo Report

Browse Photos   Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: IMAG0362-1.jpg

Photo Type: Overview

Direction: S

Date/Time: Jan 28 2012 11:49AM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: View to the south from the far northeast corner of the mine site.

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EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1281055.jpg

Photo Type: Overview

Direction: SE

Date/Time: Jan 28 2012 12:34PM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: The old Johnny M mineshaft entrance.

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EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1281056.jpg

Photo Type: Overview

Direction: S

Date/Time: Jan 28 2012 12:46PM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: Old concrete pad located on the north side of the Johnny M Mine area.

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EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1281057.jpg

Photo Type: Overview

Direction: S

Date/Time: Jan 28 2012 12:46PM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: Close-up view of old concrete pad.

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EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1281058.jpg

Photo Type: Overview

Direction: SW

Date/Time: Jan 28 2012 12:50PM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: View down the old road which comes into the Johnny M Mine from the north.

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EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1281059.jpg

Photo Type: Overview

Direction: N

Date/Time: Jan 28 2012 12:51PM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: START-3 using GPS to place pinflags across the site within a grid system.

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EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1281060.jpg

Photo Type: Overview

Direction: N/A

Date/Time: Jan 28 2012 12:53PM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: Collapsed feature on the northeast side of the minesite. Underground pipes were noted inside of the feature.

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EPA Response Manager Photo Report

Browse Photos   Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1281061.jpg

Photo Type: Overview

Direction: S

Date/Time: Jan 28 2012 12:57PM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: Underground pipe exposed in the arroyo bed.

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EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1281064.jpg

Photo Type: Overview

Direction: E

Date/Time: Jan 28 2012 3:26PM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: What appears to be an old venthole near the old mineshaft entrance.

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EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1281062.jpg

Photo Type: Overview

Direction: E

Date/Time: Jan 28 2012 3:26PM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: General view across the site towards the old mineshaft entrance.

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EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1281063.jpg

Photo Type: Overview

Direction: W

Date/Time: Jan 28 2012 3:26PM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: The old Johnny M mineshaft entrance.

<< < > >>

EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: IMAG0365.jpg

Photo Type: Overview

Direction: N/A

Date/Time: Jan 28 2012 3:42PM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: Shovel which was buried in what appeared to be fill material.

<< < > >>

EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: IMAG0366.jpg

Photo Type: Overview

Direction: N/A

Date/Time: Jan 28 2012 4:18PM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: Vent hole present on property adjacent to the mine site, immediately north of the arroyo.

<< < > >>

EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1281066.jpg

Photo Type: Overview

Direction: NE

Date/Time: Jan 28 2012 6:48PM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: General view across the site. Note the powerlines in the background.

<< < > >>

EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1281065.jpg

Photo Type: Overview

Direction: N

Date/Time: Jan 28 2012 6:48PM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: General view across the northeast area of the mine site.

<< < > >>

EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name:	Johnny M ORS
Incident Name:	Johnny M Uranium Mine ORS
Photo Name:	IMAG0370.jpg
Photo Type:	Overview
Direction:	SE
Date/Time:	Jan 29 2012 9:37AM
Latitude:	0
Longitude:	0
Photographer:	Patrick Buster
Witness:	Patrick Buster
Caption:	View across what appears to be fill material on the mine site. Significantly elevated gamma activity was measured when this material was encountered.

<< < > >>

EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1291069.jpg

Photo Type: Overview

Direction: NE

Date/Time: Jan 29 2012 11:01AM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: Gate separating the old mine site from the adjacent property.

<< < > >>

EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1291070.jpg

Photo Type: Overview

Direction: SE

Date/Time: Jan 29 2012 11:09AM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: Background location to the northwest of the mine.

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EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1291071.jpg

Photo Type: Overview

Direction: E

Date/Time: Jan 29 2012 11:10AM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: Background location to the northeast of the mine.

<< < > >>

EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1291072.jpg

Photo Type: Overview

Direction: S

Date/Time: Jan 29 2012 11:30AM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: View down an old road leading to the mine site from the north.

<< < > >>

EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1291073.jpg

Photo Type: Overview

Direction: S

Date/Time: Jan 29 2012 11:30AM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: General view across the mine site from the old access road.

<< < > >>

EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1291074.jpg

Photo Type: Overview

Direction: E

Date/Time: Jan 29 2012 11:32AM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: General view of the northeast background location.

<< < > >>

EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1291076.jpg

Photo Type: Overview

Direction: N

Date/Time: Jan 29 2012 11:46AM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: View across the Lee Ranch near the northeast background area.

<< < > >>

EPA Response Manager Photo Report

Browse Photos Search Photos

Event Name: Johnny M ORS

Incident Name: Johnny M Uranium Mine ORS

Photo Name: P1291075.jpg

Photo Type: Overview

Direction: S

Date/Time: Jan 29 2012 11:46AM

Latitude: 0

Longitude: 0

Photographer: Patrick Buster

Witness: Patrick Buster

Caption: General view of the northeast background area.

<< < > >>

APPENDIX B

START-3 SITE LOGBOOK

START-3 EPA REGION 6

LOGBOOK

"Rite in the Rain"®

ALL-WEATHER

JOURNAL

No. 391

JOHNNY M. MINE ORS

TDD # TO-0035-11-11-01

WO # 20406.012.035.0094.01

JANUARY 2012

INCH

"Rite in the Rain"®

ALL-WEATHER WRITING PAPER

Name Weston Solutions, Inc.

Address 5599 San Felipe, Ste #700
Houston, TX 77056

Phone 713-985-6600

Project Johnny M Mine
McKinley County, NM
TDD# TO-0035-11-11-01
WO# 20406.012.035.0694.01

CONTENTS

PAGE	REFERENCE	DATE

START-3 Johnny M Uranium Mine 1/27/2012

1000 START-3 Field Team Lead (FTL) Patrick Baxter receives gamma scanning unit from START-3 Albuquerque, New Mexico office. The unit is a Trimble GeoXT 6000 series, paired with a Ludlum model 2221 detector ~~(# 163687) and NaI Probe model 44-10 (# PR~~ PB (# 149959) and NaI Probe model 44-10 (# PR033098). START-3 will also collect 1-minute stationary gamma measurements with a separate Ludlum model 2221 (# 163687) and NaI probe model 44-10 (# PR112840). Each probe was calibrated by a qualified and registered calibration vendor on 21 September 2011 and 20 September 2011, respectively. For data validation purposes, START-3 collected 20 1-minute background measurements and 20 1-minute source measurements (Co-60) to compare percent deviation between the two instruments. Each unit will have a one minute background and one minute source check at the beginning and end of each field day, which is compared to the mean background and source reading. If the instrument is +/- 20% deviance from the mean on any day, it will not be used for field gamma scanning. The 20 background/source check measurements can be seen on the table on page 3 of this logbook. —— PB

START-3 Johnny M Uranium Mine 1/27/2012

	PR112840/meter-163687		PR033098/meter-149959	
	Background	Source	Background	Source
1)	10609	34191	9656	32561
2)	10706	34119	10244	32904
3)	10639	34395	10073	33226
4)	10709	34386	10161	33129
5)	10640	34493	10171	33026
6)	10633	34579	10017	33011
7)	10607	34258	10330	32895
8)	10723	34348	10230	32691
9)	10572	34348	10220	33020
10)	10568	34530	10185	32986
11)	10619	34345	10075	33171
12)	10635	34319	10104	32963
13)	10810	34319	10232	33227
14)	10761	34327	10418	33165
15)	10857	34385	9956	33114
16)	10682	34574	9846	33124
17)	10590	34188	10007	33119
18)	10851	34390	9940	33114
19)	10774	34450	10165	~~33003~~ PB 33030
20)	10624	34534	10343	33204
Avg:	10682	34371	10104	33039

Background % deviation = (10682 − 10104) / 10682 = 5.41 %

Source % deviation = (34371 − 33039) / 34371 = 4.03 %

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START-3 Johnny M Uranium Mine 1/28/12

0630 Arrive at Grants EPA command post to gather supplies and source check ludlum units. Zero out 4 dosimeters Badge # 465751 is assigned to START-3 PB. Badge # 903067 is assigned to START-3 Derrick Cobb (DC). START-3 Awaits arrival of EPA SAM LaDonna Turner and START-3 CHP Bob Schoenfelder. Cannot access property until 0810 as per EPA/LEE RANCH access agreement. —— PB

0645 Source/background check ludlums. PR108446/165487 background reading' 10395, PR283098/149759 : 10107, Source readings : 34342; 34361, respectively. Both instrument is within +/- 20% deviance from yesterday's 2D - readings. Both are within 10% deviance of each other —— PB

0730 Meet with EPA SAM. Depart for site. Discuss access. —PB

0805 Arrive at Thomas Jackson's gate. Will access Johnny M. after gaining permission from Mr. Jackson on 1/27/12. —— PB

0820 Go over H&S plan, ~~at~~ physical concerns, rad exposure. —— PB

0840 START-3 begins laying pinflags, other Team looks for potential background locations. —— PB

1110 Team 1 (Start-3 Cobb + Buster) complete laying out 100 evenly spaced pinflags. One 1-minute scaler reading will be collected at each location; 10 elevated locations will be sampled. NOTE: Lots of Snow cover and

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START-3 Johnny M. Uranium Mine 1/28/12

Very wet. EPA has previously (1/24) instructed START-3 to collect radiation measurements/samples regardless of snow cover and moisture. START-3 indicated to EPA ~~that~~ the results will not be 100% accurate due to site conditions—despite, EPA wanted START-3 to proceed. —— PB

1540 Complete gamma scan. Some areas were limited due to deep ravines. Collect 11,017 data points. —— PB

—— Single point data ——

Time	Location	Reading	Comment
1550	~~2~~ 4	17240	arroyo; snow
1553	5	16737	arroyo snow
1555	6	17446	arroyo snow
1557	7	17899	arroyo snow
1604	2	15111	Snow around
1606	3	15653	snow wind
1608	1	11346	snow around
1611	8	22488	Snow ground

1620 complete 1-minute count locations; choose sample locations —— PB

1530 collect samples from locations ~~81~~, 88, 84, 82, 77, 73, 70 (duplicate) 65, 66, 55, 54. —— PB

1540 Demobilize site, will collect background samples and pinflags tomorrow —— PB

START-3 Johnny M Uranium Mine 1/28/12

1810 Arrive at Grants EPA command post to offload equip, upload data, and source check ludlums. — PB

1815 Retrolog: Weather today: Sunny, light West wind, high temp: 43°F, Low Temp 15°F. — PB

1830 PR073098 | 149959 Background: 9818 cpm
PR033098 | 149959 Source: 32923
PR112840 | 163687 Background: 10577
PR112840 | 163687 Source: 33430

1900 Will process soil samples for shipping. End of log day. — PB

START-3 Johnny M Uranium Mine 1/29/12

0615 Arrive at Grants EPA Command Post. — PB

0630 Background & source check ludlum unit PR033098/149959. Will not use other ludlum today; as it is not needed. Source: 32755 Background: 10215

0635 Weather today: Sunny, light wind, high 48°F, Low 18°F.

0640 Will collect background samples, 1-minute counts, and GPS coordinates today and pick up pinflags. Once today's logbook entry is closed out, please see the following pages for a complete summary of all 1-minute gamma counts. — PB

0720 Process soil samples, will discard excess soil at the mine. Load equipment. Await arrival of EPA SAM. — PB

0735 Depart CP for site. — PB

0805 Arrive at Tom Jacksons front gate. Change shoes. — PB

0810 Begin to pick up pinflags — PB

0855 Finish picking of pinflags; dispose of excess soil on minesite. — PB

0911 Background-NW 1-minute count: 13,502 cpm, collect sample. — PB

0940 Background-NE 1-minute count 9,938 Cpm. Collect Sample. — PB

1005 Complete collecting background samples. — PB

1015 EPA SAM agrees to use the two background samples selected as the site background. —

1050 Demobe site for Grants EPA Command Post — PB

1120 Arrive at command post. Unload equipment. — PB

PB

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START-3 Johnny M Uranium Mine 1/27/12

1200 Source check Ludlum PR033048 / 149959. Background: 10,438
Source: 33,068. ——— PB

1208 Download trimble data, begin processing samples for shipment, enter to SCRIBE. Plot GIS data. ——— PB

* See the chart below for 1-minute count summary *

TIME	LOCATION	READING	COMMENT
1608	1	11346	snow around
1604	2	15111	Snow around
1606	3	15653	snow around
1550	4	17240	arroyo; snow
1553	5	16733	arroyo; snow
1555	6	17446	arroyo; snow
1558	7	17899	arroyo; snow
1611	8	22188	snow around
1545	9	12233	
1548	10	7624	soft
1550	11	7991	
1554	12	8388	next to snow
1556	13	6907	
1601	14	8884	snow, vegetation
1604	15	18836	
1459	16	13197	snow around
1200	17	26452	
1539	18	10441	
1529	19	10306	

PB

START-3 Johnny M Uranium Mine 1/29/12

TIME	LOCATION	READING	COMMENT
1527	20	12742	
1525	21	15872	grassy
1515	22	13068	
1513	23	20209	
1501	24	21234	
1453	25	8726	
1442	26	7357	
1202	27	89629	Arroyo edge
1542	28	23179	
1532	29	16466	
1523	30	34716	grassy
1517	31	35038	
1510	32	24034	
1504	33	13612	grassy
1451	34	9059	
1444	35	6288	
1439	36	15608	
1205	37	103,446	
1536	38	29449	
1534	39	28809	
1521	40	39937	
1519	41	32671	
1508	42	14,265	Grassy
1506	43	9338	

PB

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START-3 Johnny M Uranium Mine 1/29/12

TIME	LOCATION	READING	COMMENT
1449	44	12885	
1446	45	~~6615~~ PD 11575	
1437	46	6615	
1418	47	35205	
1420	48	34040	
1422	49	36084	
1424	50	30 876	
1427	51	21 572	
1433	52	11596	
1416	53	33069	
1210	54	251,115	
1414	55	156 052	
1411	56	87 152	
1408	57	42 189	
1358	58	158,956	soft
1400	59	181,572	soft
1402	60	177,434	
1404	61	45968	
1406	62	27285	
1355	63	187,179	
1353	64	261,988	
1350	65	342,018	
1339	66	269,876	muddy/snow
1347	67	31 167	snow

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START-3 Johnny M Uranium Mine 1/29/12

TIME	LOCATION	READING	COMMENT
1219	68	89,914	
1212	69	167,740	Vegetation
1337	70	381,092	muddy/snow
1342	71	64 580	muddy
1344	72	~~209,993~~ PD 34168	snow
1216	73	209,993	
1334	74	225,252	
1331	75	79640	snow around
1328	76	45 278	snow around
1218	77	282,248	wet/muddy
1320	78	245,596	standing water
1322	79	122,636	muddy/grassy
1325	80	33214	wet/snow
N/A	81	N/A	culled; very deep snow
1220	82	228,461	
1224	83	223,936	muddy/grass
1226	84	117,322	wet/muddy/grassy
1313	85	96 349	wet/muddy/grassy
1310	86	63323	wet/muddy/near snow
1308	87	24857	snow around
1227	88	265,129	muddy
1232	89	39,725	
1234	90	24,281	muddy
1305	91	20139	muddy/wet/grass

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START-3 Johnny M Uranium Mine 1/29/12

TIME	LOCATION	READING	COMMENT
1300	92	21147	snow around
1236	93	19710	muddy
1303	94	18110	
1249	95	21324	wet/grassy
1257	96	17775	snow around
1239	97	21082	grassy
1241	98	17879	
1244	99	17472	grassy
1246	100	16495	surrounded by snow

1500 Complete data download, GIS work and radiation statistics analysis. START-3 will label samples for shipment to Eberline Services (gamma Spectroscopy) and ALS (TAL metals plus Total U and Molybdenum).

APPENDIX C

START-3 QUALITY ASSURANCE SAMPLING PLAN

OBSERVED RELEASE SAMPLING

QUALITY ASSURANCE SAMPLING PLAN

FOR

JOHNNY M URANIUM MINE ORS
GRANTS LEGACY URANIUM SITES
GRANTS, MCKINLEY COUNTY, NEW MEXICO

Prepared for

U.S. Environmental Protection Agency Region 6
Linda Carter, Project Officer
1445 Ross Avenue
Dallas, Texas 75202

Contract No. EP-W-06-042
Technical Direction Document TO-0035-11-11-01
WESTON Work Order No. 20406.012.035.0694.01
NRC No. N/A
CERCLIS No. NMN0006607139
FPN N/A
EPA SAM: Lisa Price
START-3 PTL: Patrick Buster

Prepared by

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(210) 308-4300

December 2011

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All figures are provided as separate portable document format (PDF) files.

1. INTRODUCTION

Weston Solutions, Inc. (WESTON®), the Superfund Technical Assessment and Response Team (START-3) Contractor, has been tasked by the U.S. Environmental Protection Agency (EPA) Region 6 under Contract Number EP-W-06-042, Technical Direction Document (TDD) No. TO-0035-11-11-01 (Appendix C) to conduct Observed Release Sampling (ORS) at the Johnny M Uranium Mine located in McKinley County, New Mexico. Site coordinates are Latitude 35.454367° North and Longitude -107.723603° West. A Site Location Map is provided as Figure 1-1. All figures are provided as separate portable document format (PDF) files. START-3 has prepared this Quality Assurance Sampling Plan (QASP) to describe the technical scope of work to be completed as part of the TDD.

1.1 PROJECT OBJECTIVES

START-3 is providing technical assistance to EPA Region 6 for conducting ORS activities at legacy uranium mines. The purpose of the ORS is to determine if past mining activities resulted in releases of hazardous substances to the environment at uranium mine sites that have a wide range of reclamation histories. START-3 will assess the existence and migration of hazardous substances and identify the receptors or targets potentially exposed to the hazardous substances. This Quality Assurance Sampling Plan (QASP) provides the generic guidance for conducting ORS and specific field sampling plans for the Johnny M Uranium Mine.

The ORS objective will be achieved by evaluating data obtained during the site assessment using a 2 inches by 2 inches Sodium Iodide (NaI) detector in conjunction with a Global Positioning System (GPS) unit. The detector will be mounted on a cart or hand-held approximately 15 inches above the soil surface. The instrument will be set with an “open” window to allow detection of the broad spectrum of gamma energies associated with the naturally occurring radionuclides. Samples will be collected from surface soil and potential surface water on-site, downgradient, and at background locations. Sediment samples in the surface water pathway may also be collected during this ORS. Additional samples may be collected to determine specific conditions in anomalous features on-site, if warranted. Section 4.1 describes the laboratory analyses that will be used as part of this investigation.

1.2 PROJECT TEAM

The Project Team will consist of START-3 personnel including Patrick Buster as the Project Team Leader (PTL), a Data Manager (DM), and a START-3 Field Team Leader (FTL) who will also act as the Field Safety Officer (FSO). The FTL will oversee collection of the samples as necessary, record the activities at each sample location in the field logbook, and verify sample documentation. Sample documentation and preparation is also the responsibility of the START-3 FTL. The FTL will be responsible for documenting the work performed and will serve as START-3 liaison to EPA Region 6.

1.3 QASP FORMAT

This QASP has been organized in a format that is intended to facilitate and effectively meet the objective of the removal assessment. The QASP is organized as follows:

- Section 1 – Introduction
- Section 2 – Site Background
- Section 3 – Sampling Approach and Procedures
- Section 4 – Laboratory Analyses
- Section 5 – Data Validation
- Section 6 – Water Sampling
- Section 7 – Quality Assurance

2. SITE BACKGROUND

Information regarding the site location, description, and site history is included in the following subsections.

2.1 SITE LOCATION AND DESCRIPTION

The Johnny M Uranium Mine Site is within the Ambrosia Lake Mining District, located 19 miles north-northwest of Grants in McKinley County, New Mexico. The reclaimed area of the Johnny M Uranium Mine Site is approximately 65 acres in size.

2.2 SITE HISTORY

The Johnny M Mine, located near San Mateo, New Mexico, was operated by Ranchers Exploration and Development (predecessor to Hecla) from early 1973 to early 1982. The mining sequence at the mine included backfilling of the mined-out areas with mill tailings returned to the site from the mill that processed the ore. To accomplish this, two surface injection locations were used for storage of the uranium tailings prior to disposal in the mine stopes. According to New Mexico records, these two areas covered approximately 1 acre at the north and 1 acre at the south injection site. The tailings were slurried and then pumped into the mine to prevent caving and “reduce the vulnerability of possible breaks in the integrity of the Dakota aquifer located above the mine.” An estimated 286,000 tons of tailings were injected into the mine. Disposal depths range from 1,134 feet to 1,148 feet and from 1,162 feet to 1,183 feet below the surface (using the shaft for datum), or about 1,100 to 1,300 feet underground, depending on the terrain.

Reclamation of the mine property began in early 1982. The mine shaft was sealed with a 4-foot-thick water ring reinforced concrete plug set between the Dakota and the Westwater members of the formation. The portal was sealed with a 12-inch-thick reinforced concrete plug, and a 20-inch-diameter capped, steel pipe was set in the concrete. The surface was then covered with earthen materials during site recontouring. The location of the shaft is not presently obvious due to the revegatated surface.

3. SAMPLING APPROACH AND PROCEDURES

3.1 OBJECTIVE

The objective of this QASP is to develop a standardized assessment process for legacy uranium mines that includes site reconnaissance and limited sampling that can be accomplished by a small work crew of three to five staff members in one work day or less. The QASP includes direct observation, field measurements, soil and water sampling, and laboratory analyses to determine with high confidence if a release of hazardous substances has occurred at the mine site. EPA and Weston Standard Operating Procedures (SOPs) are provided as Appendix A.

3.2 CRITERIA FOR OBSERVED RELEASE AND DATA QUALITY OBJECTIVES

The criteria against which each site will be evaluated are taken from the New Mexico Environmental Department (NMED) draft document *"Generic Field Investigation and Soil/Sediment Sampling Work Plan Guidance to Assess a Legacy Uranium Mine Site for An Observed Release"* dated July, 2011. That document describes the following three numerical criteria that define whether a hazardous substance is present and represents an observed release.

1. The on-site gamma count rate will be compared to the mean background gamma count rate to determine if the count rate is equal to or greater than two times the background mean.
2. Laboratory analyses of soil/sediment samples will be compared to the background isotopic concentrations to determine if the concentration is equal to or greater than three times the background mean.
3. Laboratory analyses of soil/sediment samples will be compared to the background isotopic concentrations to determine if the concentration is equal to or greater than two standard deviations above the background mean.

An observed release is part of the Site Investigation strategy for computing a Hazardous Ranking System (HRS) under CERCLA, which is the program administered primarily by the EPA for evaluation of sites for the Superfund National Priorities List (NPL) ("Guidance for Performing Site Inspections Under CERCLA, EPA/540-R-92-021"). For the purposes of this QASP, the only radioisotopes of concern related to Criteria 2 and 3 above are U-238 and Ra-226. The laboratory analyses will generate data for other radioisotopes (such as Potassium-40 [K-40]) as a bi-product of the analyses, but these other isotopic data are not relevant to the project objectives and will not be evaluated or compared to any criteria because they are unrelated to uranium mine operations.

More detailed instructions as to how to apply these criteria are discussed in the sections below. However, these criteria are applied to individual measurements or laboratory analyses for each sampling/measurement point. If measurements or laboratory analyses exceed any of these criteria, the site is determined to demonstrate conditions of an "observed release" and is to be considered for further evaluation and possible follow-on action. The criteria are not based on risk or dose, nor are they based on the area size of the impacted soil.

The objective of soil sampling is to determine if a hazardous substance is present and represents an observed release. To accomplish this, data quality objectives (DQOs) have been established and are included in Appendix B. The DQOs presented were developed using the seven-step process set out in the *EPA Guidance for Quality Assurance Project Plans: EPA QA/G-5*.

3.3 DETERMINATION OF BACKGROUND

As stated above, the numerical criteria are relative to either the count rate or soil concentration at some level above the background mean. Therefore, it is critical to accurately identify the background mean for each property or mining claim site. Background radiation has many sources including cosmic, terrestrial, and man-made sources, all of which can contribute to the natural variability of the ambient gamma background count rate level. When considering the natural background concentration of various radioisotopes, uranium 238 (U-238) and its daughter products (particularly Radium [Ra-226]), in equilibrium, are commonly found in U.S. soils at concentrations ranging from about 0.5 to 1.5 picocuries per gram (pCi/g). However, since uranium mines are normally located in areas geologically enhanced in uranium, the background levels of U-238 and daughters near legacy uranium mines may be above these concentrations. Other radionuclides found in natural background soils include K-40 at typical concentrations ranging from 10 to 25 pCi/g; Thorium-232 (Th-232) and daughters ranging from 0.5 to 1.5 pCi/g; and Caesium-137 (Cs-137), a man-made radioisotope from nuclear weapons testing, at about 0.5 pCi/g. Establishing background concentrations that describe a distribution of measurement data is necessary to identify and evaluate contributions attributable to legacy mines.

A site background location should have similar physical, chemical, geological, radiological, and biological characteristics as the legacy mine site if there were no impacts from uranium mining or milling at the site. For purposes of this QASP, the background for each legacy mine site is determined following guidance provided by the HRS protocol. The HRS protocol determines the background for the individual site as the mean of field measurements and laboratory analyses of samples collected from four locations at the perimeter of the property corresponding to the four directions of a compass (N, S, E, and W). After locating the four background locations at the perimeter of the mining claim (or at the boundary of the property), each location should be gamma-scanned (the technique of gamma scanning is described in a following section) to verify that the area appears to have a homogenous gamma ambient level and a visual confirmation that the other four characteristics listed above appear satisfied. The gamma-scan data (count rate and location) should be saved for data validation and quality control purposes.

Due to the nature of the extended uranium mining in the area, a pre-designated background location may exhibit radiological characteristics that do not appear to meet the HRS requirement for a site background to have a similar chemical, physical, radiological, geological, and biological characteristics as the legacy mine site if there were no impacts from uranium mining/milling. If the FTL determines that significantly elevated readings are encountered or physical conditions indicate possible impacts from past mining or milling activities, that background location may be moved to another area reasonably close by. If a more suitable background location cannot be located, a sample will still be collected and data will be recorded from the most suitable location in that immediate area. That background location may be used or omitted from consideration based on final data evaluation when the site report is developed.

At each background location, a 1-minute stationary gamma count rate measurement will be collected with the detector held approximately 15 inches above the ground surface. The count rate and location, as recorded by GPS, will be saved and the mean calculated from these four measurements. At each background location, a soil sample will be collected for radiochemical and stable chemical analyses. A sample of approximately 6-inch depth and 1 kilogram (kg) mass will be collected in pre-cleaned containers provided by the laboratory. Rocks of greater than approximately 0.25-inch-diameter should be discarded, as should any biological material such as grass or twigs. Samples should be analyzed by gamma spectrometry for all detectable radioisotopes by this method and by alpha spectrometry for isotopes of the U-238 and Th-232 decay chains. The suite of metal analytes to be analyzed in each soil sample include the 23 Target Analyte List (TAL) metals plus total uranium and molybdenum. Additional information and specific analytical techniques are discussed in a subsequent section.

3.4 DIRECT OBSERVATION

An observed release means that hazardous substances have been documented on the mine site or surrounding area soil or water, and that the substances are attributable, at least in part, to the site that is being evaluated. An observed release can be established by direct observation if hazardous substances such as mine ore and/or waste rock that are geologically foreign and mineralogically distinct from the native surface soil and rock composition on the surface of the mine property are present. An observed release can also be established by observation of ore or waste rock transported off-site by wind or water erosion, particularly into nearby drainage channels. Determination of mine surface or off-site contamination by direct observation should be documented by photographs and logbook entries that clearly demonstrate that the site remains impacted by prior mining activities. Determination by direct observation does not quantitatively demonstrate that the numerical criteria have been exceeded, but it is highly likely that subsequent stationary gamma measurements and soil sampling in the areas noted by direct observation will conclusively demonstrate conditions of "observed release."

3.5 GAMMA SCANNING

Like direct observation, scanning does not provide a quantitative assessment of site conditions but is an excellent tool to assess the relative gamma activity of the area. Scanning is useful in quickly determining the general radiological condition of the site and determining where background radiological conditions exist. It literally paints a picture that depicts where areas of elevated gamma activity are present and identifies where additional measurements and sampling efforts should be placed.

Gamma scanning will be conducted using a 2 inches by 2 inches NaI detector in conjunction with a GPS unit. The detector will be mounted on a cart or hand-held approximately 15 inches above the soil surface. The instrument will be set with an "open window" to allow detection of the broad spectrum of gamma energies associated with the naturally occurring radionuclides. The technician will walk transects at approximately 0.5 meter-per-second from one end of the mine claim boundary to another. One-second measurements of gamma activity are recorded and electronically attached to the appropriate GPS designation for subsequent plotting and depiction of ambient gamma activity. The field-of-view for this detector system is approximately 1 meter wide perpendicular to the direction of the travel. The overall Johnny M Uranium Mine Site is approximately 65 acres in size; however, an area of approximately 31 acres will be assessed as part of this ORS event. Ten percent coverage will be the objective, and transects will be walked at a distance of approximately 10 meters apart. With a 10-meter transect spacing, the technician can gamma-scan 4.4 acres/hour. It is expected that these transects can be completed within five to seven hours with one monitoring team. The FTL may modify the transect spacing as necessary to ensure maximum site coverage and compliance with project scheduling and time constraints based on actual site conditions encountered in the field.

In addition to walking the transects, the technician will visually search for suspect areas such as waste rock or ore piles, mine portals (adits, shafts, vents, bore holes), machinery, building foundations, haul roads, arroyos, stream beds, or surface impoundments to gamma-scan. The technician should use the audible signal from the instrument system to help guide him to areas of elevated gamma activity. If there are many suspect areas needing to be gamma-scanned, a second gamma-scanning system should be employed to help with the survey load.

Data are recorded and plotted in units of gamma counts per minute (CPM). However, the data are collected in counts per second and then multiplied by 60 seconds/minute to arrive at CPM. Therefore, any slight variation in the collected count rate is magnified by this multiplication. For this reason, it is not unusual for isolated measurements to be significantly elevated above background. These isolated measurements are usually statistical outliers and are not indicative of actual elevated gamma activity. However, any significantly elevated gamma measurements (greater than 2 times background) should be re-investigated, particularly if there is a locus of elevated measurements around a common point.

Data from these gamma scans provide a useful representation of site conditions and will be presented in the site report with a color-coded display to clearly show the various levels of elevated readings. Because of the statistical variation in the readings, the gamma-scanning data are not used for comparison to the observed release criteria for gamma measurements. These data are useful to identify areas where soil samples should be collected and stationary gamma measurements made.

3.6 STATIONARY GAMMA MEASUREMENTS

Stationary 1-minute gamma measurements will be collected at grid points across the property, and at additional suspect locations identified by the gamma-scanning data. Because these stationary measurements are integrated over 1-minute intervals versus 1-second intervals for the scanning measurements, the stationary measurements will be a more accurate measurement of the ambient gamma activity at that point. Stationary measurements will be made with the same type of instrumentation and at the same height above ground surface as the gamma-scanning measurements. The instrument set will again be a 2 inches by 2 inches NaI detector coupled to a GPS system, operated in the “open window” mode, and held at about 15 inches above the ground surface.

The approximate size of the area to be assessed is 31 acres. To collect thorough and sufficient data, grid spacing will be placed at approximately 125-foot-square spacing. This 125-foot grid spacing will generate 100 evenly spaced locations across the property. Assuming 1 minute to collect the data plus 4 minutes of additional time to walk to the next grid point, 100 measurements would require one person approximately 8 hours to collect, allowing the task to be completed in one work day if performed in parallel with the other site activities. Visual Sample Plan (VSP) software will be used to precisely generate sample locations using the designated grid spacing once the perimeter of the site is established. Each measurement location will be assigned its applicable GPS coordinates and located in the field using an appropriate electronic device. If the size of the mine site is altered or other site conditions change during the site reconnaissance, VSP software will be used to re-establish the number of grids and grid spacing most suitable for the mine site as determined by the FTL.

In addition to the grid locations, stationary 1-minute measurements will be collected at suspect areas as identified by direct observation of the site or by gamma-scanning. These measurements will again be collected using the same instrument and GPS system. It is presumed that a second instrument set will be required for these measurements at suspect areas.

Interpretation of these data compares each count rate measurement, collected either from grid points or suspect areas, with the mean gamma background count rate measurement. If any count rate measurement is equal to or greater than two times (2X) the mean background count rate, the property is identified as having an observed release. It is important to note that a property identified as having an observed release may require no further action eventually if, for instance, the majority of the property has levels equal to background. Clean-up levels for these sites are not established in the document, and the observed release criteria are not the clean-up criteria.

3.7 SOIL SAMPLING

Soil samples of 0 to 6-inch depths and approximately 1 kg mass will be collected at locations identified by the stationary measurements as being suspect. It is recommended that the locations with the highest 1-minute stationary readings be the primary locations considered for sampling. It is expected that about 10 samples will be collected from a typical mine site. When a suspect location is selected for sampling based on the stationary measurement, the potential location will first be carefully examined both visually and by radiological scanning to confirm that the site is free of nuggets of ore or waste rock, or other hot particles that can significantly impact analytical results. It is the intent of soil sample analyses to quantify the residual uranium concentration averaged over the entire 1 kg mass, and therefore a reasonably homogeneous sample is desired.

If the suspect area has a few obvious nuggets or hot spots of contamination that are not typical of a broad area being sampled and can be excised, remove the hot spots and re-survey the potential location. Document in the field log what the conditions were and the number of nuggets or hot spots removed. If the ambient gamma activity is still significantly elevated and the location is therefore a good candidate for sampling, continue with the collection of the soil sample at this location, and re-collect the 1-minute stationary measurement at the location. If removing the hot spots has also removed the elevated gamma activity, then another sampling spot should be selected. If the potential sample location is obviously composed of multiple nuggets or hot spots that will likely be excluded when the sample is collected, the sample should not be collected, and another location should be selected for that sample. Again, any non-radioactive rocks of greater than 0.25-inch diameter and any biological material should be removed from the sample, possibly using a sieve. Alternately, if nuggets of elevated radioactivity appear to be widespread and typical for the site, they may be included in the sample if the laboratory has a procedure for crushing and grinding the sample prior to homogenizing, and the laboratory is directed to do so.

4. LABORATORY ANALYSES

4.1 ANALYTICAL METHODS

All samples from the background locations and the suspect locations will be submitted to a qualified radiological laboratory for gamma spectrometry analyses. Sample preparation should include drying and homogenization of the entire 1 kg sample. The minimum gamma spectrometry aliquot size should be 0.5 kg. The laboratory will be requested to report all identifiable gamma emitting radioisotopes, and specifically the daughters of U-238, Ra-226, Th-232, and K-40. The requested sensitivity should be 0.1 pCi/g. The requested analytical procedure for Ra-226 should be by quantification of Bi-214 after an ingrowth period of at least 21 days. The suite of metal analytes to be analyzed in each soil sample include the 23 Target Analyte List (TAL) metals plus two additional metals, total uranium and molybdenum. Information regarding laboratory, analytical methods, container size, preservation techniques, and hold times is included in Table 4-1.

Since these samples are from legacy mine sites, it is assumed that the U-238 and Th-232 radioisotope decay chains will be in equilibrium. However, due to different solubilities of the chemical species found naturally in the environment, it is possible that the daughters may not be in equilibrium with the parents. Also, it is possible that mill tailings may have been returned to the mine site for storage and/or disposal. If this is the case, then the concentrations of the residual radioisotopes will not be in equilibrium. If it is suspected that any sample may not be in equilibrium, or if verification of equilibrium is desired, then additional analyses for isotopic uranium and isotopic thorium by alpha spectrometry will be requested of the laboratory. Analytical sensitivity of 0.1 pCi/g and a minimum aliquot size of 10 g will be required. It is recommended that one laboratory be selected for both types of analyses.

4.2 DATA INTERPRETATION

Interpretation of these data compares analytical results of each sample with the background mean concentration. If any sample contains U-238 as determined by alpha spectrometry or Ra-226 as determined by gamma spectrometry at a concentration equal to or greater than three times (3x) the mean background concentration or at a concentration equal to or greater than two times (2x) the standard deviation above the mean concentration, the property will be identified as having an observed release. No other isotopic results will be compared to background concentrations. However, the project Certified Health Physicist (CHP) will review any analytical data for isotopes other than U-238 and Ra-226 for which the results appear to exceed the two previously described criteria.

Table 4-1
Requirements for Containers, Preservation Techniques, Sample Volumes, and Holding Times
Johnny M Uranium Mine
Grants, McKinley County, New Mexico

Name	Analytical Methods	Container	Preservation	Minimum Sample Volume or Weight	Maximum Holding Time
TAL Metals plus total uranium, molybdenum, tin and mercury	SW846 6010/6020 SW846 7470/7471	Polyethylene (water), Glass (solid)	HNO_3 to pH<2 (water), 4°C	500 mL, 8oz	28 days for mercury 180 days all other metals
U-238, Ra-226	Gamma Spectrometry	Polyethylene (water), Glass (solid)	NA (soil/water)	1 gallon, 1 kg (32 oz)	6 months
Uranium/Thorium if determined in field	Alpha Spec ASTM 3972-90M	Polyethylene (water), Glass (solid)	HNO_3 to pH< 2 (water), NA (soil)	1 liter, 8 oz	6 months

Radiological methods to be conducted by Eberline Analytical, Oakridge, Tennessee.

TAL Metals analyzed by ALS Laboratories, Fort Collins, Colorado.

5. DATA VALIDATION

5.1 FIELD INSTRUMENTS

Each field instrument will be calibrated on an annual basis by a qualified and registered calibration vendor. Validation of field measurements will be accomplished by maintenance and review of daily background and source checks of the instrument sets. Prior to initiation of field activities, 20 one-minute background counts and 20 one-minute source check counts will be collected and a mean calculated. During field operations, a one-minute background count and one-minute source check count will be made at the start and end of each work day. If the individual one-minute count falls outside of the mean +/- 20%, the instrument will not be used until evaluated by the project CHP. Individual control charts will be maintained for the background and source check on each instrument to monitor instrument performance for trends.

5.2 LABORATORY ANALYSES

Analytical laboratory reports will be reviewed by a CHP to confirm compliance with the technical specifications and reasonableness of the analytical results. Technical specifications reviewed will be that the requested isotopes are reported, that the minimum sensitivity was attained, and the required 21-day in-growth time for Ra-226 was observed. The reasonableness of the data will be evaluated by review of the various gamma spectrometry results to determine if they are in equilibrium, if appropriate, and if the results are within the expected range of results.

6. WATER SAMPLING

6.1 WATER SAMPLING PROCEDURES

WESTON Standard Operating Procedures (SOPs) 1002-01 for Surface Water Sample Collection and 1002-02 for Groundwater Monitoring Well Sample Collection (Appendix A) will be utilized if either groundwater or surface water is observed on or in the vicinity of the mine site. The specific sampling procedures are described below.

6.2 GROUNDWATER PATHWAY SAMPLING

EPA has requested that groundwater surface pathway sampling not be included in this ORS event.

6.3 SURFACE WATER PATHWAY SAMPLING

An attempt will be made to collect a surface water sample and a sediment sample from any existing surface water impoundments, streams, or stock ponds that exist either on-site or within 1,000 meters of the nearest property boundary to document a release to the surface water pathway from the site. Samples will be analyzed for the same list of radionuclides and TAL metals as were identified for soil samples.

7. QUALITY ASSURANCE

Quality assurance will be conducted in accordance with the WESTON Corporate Quality Management Manual, dated March 2004; the WESTON START-3 Quality Management Plan, dated August 2007; and EPA Quality Assurance/Quality Control Guidance for Removal Activities, dated April 1990. Following receipt of the TDD from EPA, a Quality Control (QC) officer will be assigned and will monitor work conducted throughout the entire project including reviewing interim report deliverables and field audits. The START-3 PTL will be responsible for QA/QC of the field investigation activities. The designated laboratory utilized during the investigation will be responsible for QA/QC related to the analytical work. START-3 will also collect samples to verify that laboratory QA/QC is consistent with the required standards and to validate the laboratory data received.

7.1 SAMPLE CUSTODY PROCEDURES

Because of the evidentiary nature of sample collection, the possession of samples must be traceable from the time the samples are collected until they are introduced as evidence in legal proceedings. After sample collection and identification, samples will be maintained under chain-of-custody (COC) procedures. If the sample collected is to be split (laboratory QC), the sample will be allocated into similar sample containers. Sample labels completed with the same information as that on the original sample container will be attached to each of the split samples. All personnel required to package and ship coolers containing potentially hazardous material will be trained accordingly.

START-3 personnel will prepare and complete chain-of-custody forms using the Scribe Environmental Sampling Data Management System (SCRIBE) for all samples sent to a START-3 designated off-site laboratory. The chain-of-custody procedures are documented and will be made available to all personnel involved with the sampling. A typical chain-of-custody record will be completed each time a sample or group of samples is prepared for shipment to the laboratory. The record will repeat the information on each sample label and will serve as documentation of handling during shipment. A copy of this record will remain with the shipped samples at all times, and another copy will be retained by the member of the sampling team who originally relinquished the samples. At the completion of the project, the data manager will export the SCRIBE chain-of-custody documentation to the Analytical Service Tracking System (ANSETS) database.

Samples relinquished to the participating laboratories will be subject to the following procedures for transfer of custody and shipment:

- Samples will be accompanied by the COC record. When transferring possession of samples, the individuals relinquishing and receiving the samples will sign, date, and note the time of the sample transfer on the record. This custody records document transfer of sample custody from the sampler to another person or to the laboratory.
- Samples will be properly packed for shipment and dispatched to the appropriate laboratory for analysis with separate, signed custody records enclosed in each sample box or cooler. Sample shipping containers will be custody-sealed for shipment to the laboratory. The preferred procedure includes use of a custody seal wrapped across filament tape that is wrapped around the package at least twice. The custody seal will then be folded over and stuck to seal to ensure that the only access to the package is by cutting the filament tape or breaking the seal to unwrap the tape.
- If sent by common carrier, a bill of lading or airbill will be used. Bill of lading and airbill receipts will be retained in the project file as part of the permanent documentation of sample shipping and transfer.

SOPs 1101.01 and 1102.01 describe these procedures in more detail.

7.2 PROJECT DOCUMENTATION

All documents will be completed legibly and in ink and by entry into field logbooks, Response Manager, or SCRIBE. Response Manager is the Enterprise Data Collection System designed to provide near real-time access to non-analytical data normally collected in logbooks. Response Manager provides a standard data collection interface for modules of data normally collected by START-3 field personnel while on-site. These modules fall into two basic categories for Response and Removal. The modules include Emergency Response, Reconnaissance, Facility Assessment, Shipping, Containers, Materials, Calls, HHW, and General/Site-Specific data. The system provides users with a standard template for laptop/desktop/tablet PCs that will synchronize to the secure web interface using merge replication technology to provide access to field collected data on the RRC-EDMS EPA Web Hub. Response Manager also includes a PDA application that provides some of the standard data entry templates from Response Manager to users for field data entry. Response Manager also includes an integrated GPS unit with the secure PDA application, and the coordinates collected in Response Manager are automatically mapped on the RRC-EDMS interactive mapping site. GIS personnel can then access this data to provide comprehensive site maps for decision-making support.

Response Manager also includes an Analytical Module that is designed to give SCRIBE users the ability to synchronize the SCRIBE field data to the RRC-EDMS Web Hub. This allows analytical data managers and data validators access to data to perform reviews from anywhere with an Internet connection. The Analytical Module is designed to take the analytical data entered into EPA SCRIBE software and make it available for multiple users to access on one site. START-3 personnel will utilize SCRIBE for all data entry on-site and will upload to the Response Manager Analytical module.

7.2.1 Field Documentation

The following field documentation will be maintained as described below.

Field Logbook

The field logbook is a descriptive notebook detailing site activities and observations so that an accurate, factual account of field procedures may be reconstructed. All entries will be signed by the individuals making them. Entries should include, at a minimum, the following:

- Site name and project number.
- Names of personnel on-site.
- Dates and times of all entries.
- Description of all site activities, including site entry and exit times.
- Noteworthy events and discussions.
- Weather conditions.
- Site observations.
- Identification and description of samples and locations.
- Subcontractor information and names of on-site personnel.
- Dates and times of sample collections and chain-of-custody information.
- Records of photographs.
- Site sketches.
- Calibration results.

Sample Labels

Sample labels will be securely affixed to the sample container. The labels will clearly identify the particular sample and include the following information:

- Site name and project number.
- Date and time the sample was collected.
- Sample preservation method.
- Analysis requested.
- Sampling location.

Chain-of-Custody Record

A chain-of-custody will be maintained from the time of sample collection until final deposition. Every transfer of custody will be noted and signed for and a copy of the record will be kept by each individual who has signed it. The chain-of-custody is discussed in Subsection 7.1 Sample Custody Procedures.

Custody Seal

Custody seals demonstrate that a sample container has not been tampered with or opened. The individual who has custody of the samples will sign and date the seal and affix it to the container in such a manner that it cannot be opened without breaking the seal.

Photographic Documentation

START-3 will take photographs to document site conditions and activities as site work progresses. Initial conditions should be well documented by photographing features that define the site-related contamination or special working conditions. Representative photographs should be taken of each type of site activity. The photographs should show typical operations and operating conditions as well as special situations and conditions that may arise during site activities. Site final conditions should also be documented as a record of how the site appeared at completion of the work.

All photographs should be taken with either a film camera or digital camera capable of recording the date on the image. Each photograph will be recorded in the logbook and within Response

Manager with the location of the photographer, direction the photograph was taken, the subject of the photograph, and its significance (i.e., why the picture was taken). Where appropriate, the photograph location, direction, and subject will also be shown on a site sketch and recorded within Response Manager.

7.2.2 Report Preparation

At the completion of the project, START-3 will review and validate all laboratory data and prepare a draft report of field activities and analytical results for EPA OSC review. Draft deliverable documents will be uploaded to the EPA TeamLink website for EPA OSC review and comment.

7.2.3 Response Manager

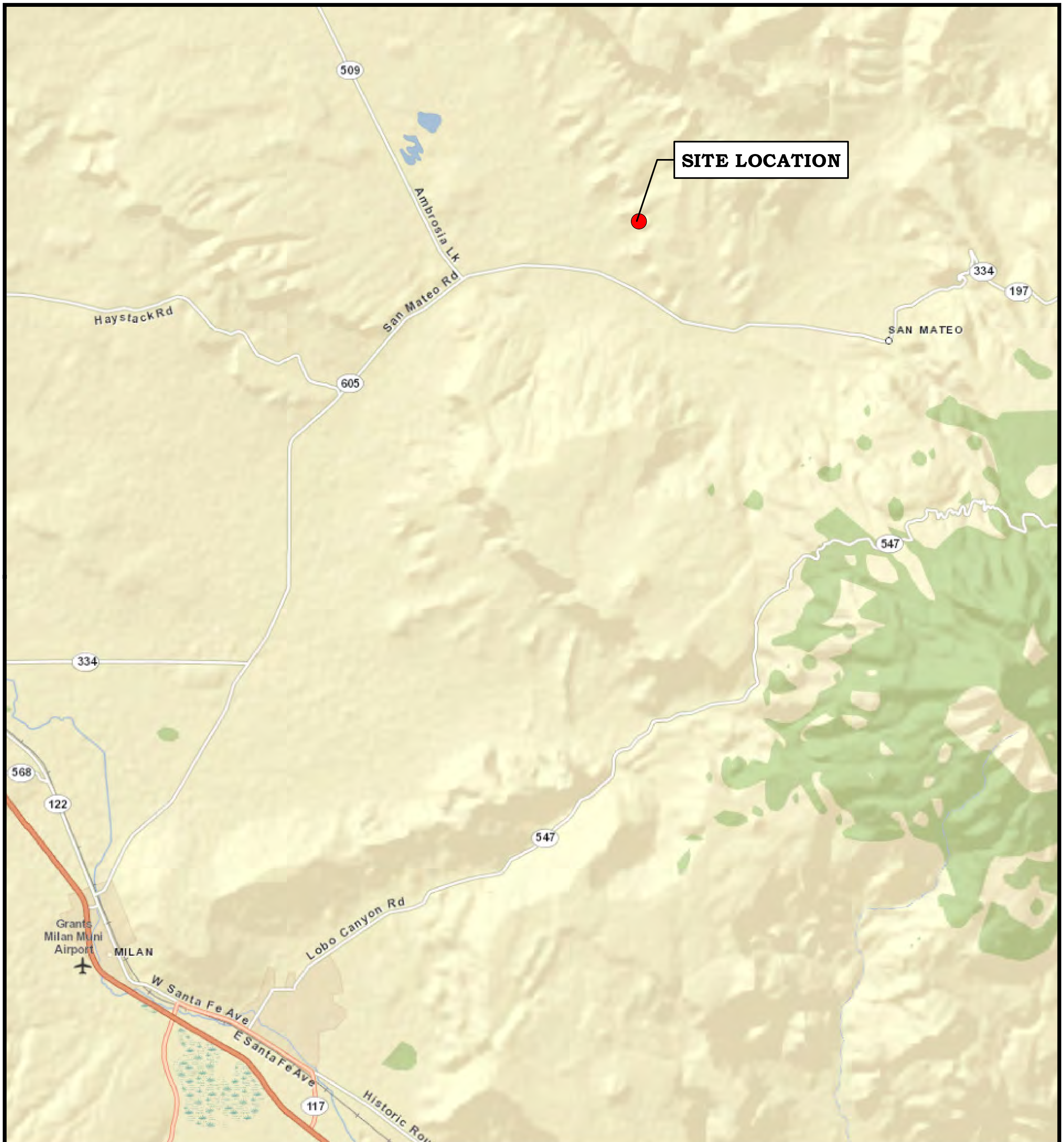
START-3 will use the Response Manager module located on the EPA Web Hub, https://solutions.westonproject.net/epawebhub/, to collect and organize the data collected from project activities. The information to be included encompasses some or all of the following depending on the specific project needs:

- General Module – site-specific data including location and type of site. It also includes an area for all key site locations including geo-spatial data associated with the key site locations.
- Emergency Response Module – includes the following sub-modules: Basic Info, HAZMAT, Release, Time Line Log, Incident Zones, Photos, Sensitive Receptors, Evacuations, Source, Cause, and Weather.
- Reconnaissance Module – provides standard templates with the flexibility of adding any additional questions of values to the drop-down lists for targeted reconnaissance efforts. Typically the data in this module is associated with ESF-10 deployments and the clean-up of orphaned containers and hazardous debris, but the module can be utilized for any and all reconnaissance activities.
- Facility Assessment Module – provides standard templates with the flexibility of adding any additional questions of values to the drop-down lists for assessments of structures. Typically utilized for EPA-regulated program facilities during an ESF-10 deployment of resources. This module can be utilized to track the assessment of any facilities including multiple assessments of the fixed facilities.
- Shipping Module – provides standard templates for creating a cradle-to-grave record of all waste shipments from the site until they are recycled or destroyed. This includes the

ability to capture manifest and manifest line items and upload photos/original documents to support the records.

- Container Module – provides standard templates for cataloguing containers including HAZCAT and Layer information in each container. The module also allows for the tracking of which containers are bulked.
- Properties Module – provides standard templates with the flexibility of adding any additional questions of values to the drop-down lists for collection of property data including access agreements and assessments of the property and current status of property with regard to the site removal action.
- Materials Module – provides standard templates for tracking materials that are brought on-site or that are removed from the site.
- Daily Reports – provides standard templates for tracking daily site activities, daily site personnel, and daily site notes for reporting back to the EPA OSC in a POLREP or SITREP.
- HHW Module – provides standard templates with the flexibility of adding any additional questions of values to the drop-down lists for tracking the amount of HHW collected at individual collection stations by HHW type.
- Data Files – data files can be uploaded in the photo module section and be associated with individual records or with the site in general. The meta data associated with that data file can be filled in using the photo log fields.

The data stored in the Response Manager database can be viewed and edited by any individual with access rights to those functions. At any time deemed necessary, POLREPs and/or SITREPs can be generated by exporting the data out of Response Manager into Microsoft Excel/Word. The database is stored on a secure server and backed up regularly.

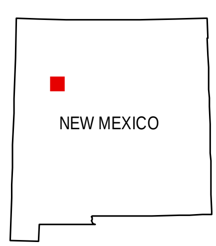


0 2.5 5

SCALE IN MILES

LEGEND

● JOHNNY M URANIUM MINE LOCATION



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TDD NO: TO-0035-11-11-01
CERCLIS NO.: NMN000607139

SOURCE: ESRI STREETMAPS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

US EPA REGION 6
START- 3

FIGURE 1
SITE LOCATION MAP
JOHNNY M URANIUM MINE AREA
MCKINLEY COUNTY, NEW MEXICO

DATE	PROJECT NO	SCALE
DEC. 2011	20406.012.035.0694.01	AS SHOWN

File: L:\20406_START3_R6\JOHNNY_M_URANIUM_MINE\GIS\FIGURE_1_SITE_LOCATION_MAP.mxd 5/9/2012 1:03:34 PM bondp

APPENDIX A

EPA GUIDANCE DOCUMENTS AND WESTON STANDARD OPERATING PROCEDURES

United States Environmental Protection Agency
Office of Research and Development
Office of Solid Waste and Emergency Response
EPA/540/S-95/504
April 1996

Ground Water Issue

LOW-FLOW (MINIMAL DRAWDOWN) GROUND-WATER SAMPLING PROCEDURES

by Robert W. Puls[1] and Michael J. Barcelona[2]

Background

The Regional Superfund Ground Water Forum is a group of ground-water scientists, representing EPA's Regional Superfund Offices, organized to exchange information related to ground-water remediation at Superfund sites. One of the major concerns of the Forum is the sampling of ground water to support site assessment and remedial performance monitoring objectives. This paper is intended to provide background information on the development of low-flow sampling procedures and its application under a variety of hydrogeologic settings. It is hoped that the paper will support the production of standard operating procedures for use by EPA Regional personnel and other environmental professionals engaged in ground-water sampling.

For further information contact: Robert Puls, 405-436-8543, Subsurface Remediation and Protection Division, NRMRL, Ada, Oklahoma.

I. Introduction

The methods and objectives of ground-water sampling to assess water quality have evolved over time. Initially the emphasis was on the assessment of water quality of aquifers as sources of drinking water. Large water-bearing units were identified and sampled in keeping with that objective. These were highly productive aquifers that supplied drinking water via private wells or through public water supply systems. Gradually, with the increasing awareness of subsurface pollution of these water resources, the understanding of complex hydrogeochemical processes which govern the fate and transport of contaminants in the subsurface increased. This increase in understanding was also due to advances in a number of scientific disciplines and improvements in tools used for site characterization and ground-water sampling. Ground-water quality investigations where pollution was detected initially borrowed ideas, methods, and materials for site characterization from the water supply field and water analysis from public health practices. This included the materials and manner in which monitoring wells were installed and the way in which water was brought to the surface, treated, preserved and analyzed. The prevailing conceptual ideas included convenient generalizations of ground-water resources in terms of large and relatively homogeneous hydrologic *units*. With time it became apparent that conventional water supply generalizations of *homogeneity* did not adequately represent field data regarding pollution of these subsurface resources. The important role of *heterogeneity* became increasingly clear not only in geologic terms, but also in terms of complex physical,

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Director

chemical and biological subsurface processes. With greater appreciation of the role of heterogeneity, it became evident that subsurface pollution was ubiquitous and encompassed the unsaturated zone to the deep subsurface and included unconsolidated sediments, fractured rock, and *aquitards* or low-yielding or impermeable formations. Small-scale processes and heterogeneities were shown to be important in identifying contaminant distributions and in controlling water and contaminant flow paths.

It is beyond the scope of this paper to summarize all the advances in the field of ground-water quality investigations and remediation, but two particular issues have bearing on ground-water sampling today: aquifer heterogeneity and colloidal transport. Aquifer heterogeneities affect contaminant flow paths and include variations in geology, geochemistry, hydrology and microbiology. As methods and the tools available for subsurface investigations have become increasingly sophisticated and understanding of the subsurface environment has advanced, there is an awareness that in most cases a primary concern for site investigations is characterization of contaminant flow paths rather than entire aquifers. In fact, in many cases, plume thickness can be less than well screen lengths (e.g., 3-6 m) typically installed at hazardous waste sites to detect and monitor plume movement over time. Small-scale differences have increasingly been shown to be important and there is a general trend toward smaller diameter wells and shorter screens.

The hydrogeochemical significance of colloidal-size particles in subsurface systems has been realized during the past several years (Gschwend and Reynolds, 1987; McCarthy and Zachara, 1989; Puls, 1990; Ryan and Gschwend, 1990). This realization resulted from both field and laboratory studies that showed faster contaminant migration over greater distances and at higher concentrations than flow and transport model predictions would suggest (Buddemeier and Hunt, 1988; Enfield and Bengtsson, 1988; Penrose et al., 1990). Such models typically account for interaction between the mobile aqueous and immobile solid phases, but do not allow for a mobile, reactive solid phase. It is recognition of this third *phase* as a possible means of contaminant transport that has brought increasing attention to the manner in which samples are collected and processed for analysis (Puls et al., 1990; McCarthy and Degueldre, 1993; Backhus et al., 1993; U. S. EPA, 1995). If such a phase is present in sufficient mass, possesses high sorption reactivity, large surface area, and remains stable in suspension, it can serve as an important mechanism to facilitate contaminant transport in many types of subsurface systems.

Colloids are particles that are sufficiently small so that the surface free energy of the particle dominates the bulk free energy. Typically, in ground water, this includes particles with diameters between 1 and 1000 nm. The most commonly observed mobile particles include: secondary clay minerals; hydrous iron, aluminum, and manganese oxides; dissolved and particulate organic materials, and viruses and bacteria. These reactive particles have been shown to be mobile under a variety of conditions in both field studies and laboratory column experiments, and as such need to be included in monitoring programs where identification of the *total* mobile contaminant loading (dissolved + naturally suspended particles) at a site is an objective. To that end, sampling methodologies must be used which do not artificially bias *naturally* suspended particle concentrations.

Currently the most common ground-water purging and sampling methodology is to purge a well using bailers or high speed pumps to remove 3 to 5 casing volumes followed by sample collection. This method can cause adverse impacts on sample quality through collection of samples with high levels of turbidity. This results in the inclusion of otherwise immobile artifactual particles which produce an overestimation of certain analytes of interest (e.g., metals or hydrophobic organic compounds). Numerous documented problems associated with filtration (Danielsson, 1982; Laxen and Chandler, 1982; Horowitz et al., 1992) make this an undesirable method of rectifying the turbidity problem, and include the removal of potentially mobile (contaminant-associated) particles during filtration, thus artificially biasing contaminant concentrations low. Sampling-induced turbidity problems can often be mitigated by using low-flow purging and sampling techniques.

Current subsurface conceptual models have undergone considerable refinement due to the recent development and increased use of field screening tools. So-called hydraulic *push* technologies (e.g., cone penetrometer, Geoprobe®, QED HydroPunch®) enable relatively fast screening site characterization which can then be used to design and install a monitoring well network. Indeed, alternatives to conventional monitoring wells are now being considered for some hydrogeologic settings. The ultimate design of any monitoring system should however be based upon adequate site characterization and be consistent with established monitoring objectives.

If the sampling program objectives include accurate assessment of the magnitude and extent of subsurface contamination over time and/or accurate assessment of subsequent remedial performance, then some information regarding plume delineation in three-dimensional space is necessary prior to monitoring well network design and installation. This can be accomplished with a variety of different tools and equipment ranging from hand-operated augers to screening tools mentioned above and large drilling rigs. Detailed information on ground-water flow velocity, direction, and horizontal and vertical variability are essential baseline data requirements. Detailed soil and geologic data are required prior to and during the installation of sampling points. This includes historical as well as detailed soil and geologic logs which accumulate during the site investigation. The use of borehole geophysical techniques is also recommended. With this information (together with other site characterization data) and a clear understanding of sampling objectives, then appropriate location, screen length, well diameter, slot size, etc. for the monitoring well network can be decided. This is especially critical for new in situ remedial approaches or natural attenuation assessments at hazardous waste sites.

In general, the overall goal of any ground-water sampling program is to collect water samples with no alteration in water chemistry; analytical data thus obtained may be used for a variety of specific monitoring programs depending on the regulatory requirements. The sampling methodology described in this paper assumes that the monitoring goal is to sample monitoring wells for the presence of contaminants and it is applicable whether mobile colloids are a concern or not and whether the analytes of concern are metals (and metalloids) or organic compounds.

II. Monitoring Objectives and Design Considerations

The following issues are important to consider prior to the design and implementation of any ground-water monitoring program, including those which anticipate using low-flow purging and sampling procedures.

A. Data Quality Objectives (DQOs)

Monitoring objectives include four main types: detection, assessment, corrective-action evaluation and resource evaluation, along with *hybrid* variations such as site-assessments for property transfers and water availability investigations. Monitoring objectives may change as contamination or water quality problems are discovered. However, there are a number of common components of monitoring programs which should be recognized as important regardless of initial objectives. These components include:

1) Development of a conceptual model that incorporates elements of the regional geology to the local geologic framework. The conceptual model development also includes initial site characterization efforts to identify hydrostratigraphic units and likely flow-paths using a minimum number of borings and well completions;

2) Cost-effective and well documented collection of high quality data utilizing simple, accurate, and reproducible techniques; and

3) Refinement of the conceptual model based on supplementary data collection and analysis.

These fundamental components serve many types of monitoring programs and provide a basis for future efforts that evolve in complexity and level of spatial detail as purposes and objectives expand. High quality, reproducible data collection is a common goal regardless of program objectives.

High quality data collection implies data of sufficient accuracy, precision, and completeness (i.e., ratio of valid analytical results to the minimum sample number called for by the program design) to meet the program objectives. Accuracy depends on the correct choice of monitoring tools and procedures to minimize sample and subsurface disturbance from collection to analysis. Precision depends on the repeatability of sampling and analytical protocols. It can be assured or improved by replication of sample analyses including blanks, field/lab standards and reference standards.

B. Sample Representativeness

An important goal of any monitoring program is collection of data that is truly representative of conditions at the site. The term *representativeness* applies to chemical and hydrogeologic data collected via wells, borings, piezometers, geophysical and soil gas measurements, lysimeters, and temporary sampling points. It involves a recognition of the statistical variability of individual subsurface physical properties, and contaminant or major ion concentration levels, while explaining extreme values. Subsurface temporal and spatial variability are facts. Good professional practice seeks to maximize representativeness by using proven accurate and reproducible techniques to define limits on the distribution of measurements collected at a site. However, measures of representativeness are dynamic and are controlled by evolving site characterization and monitoring objectives. An evolutionary site characterization model, as shown in Figure 1, provides a systematic approach to the goal of consistent data collection.

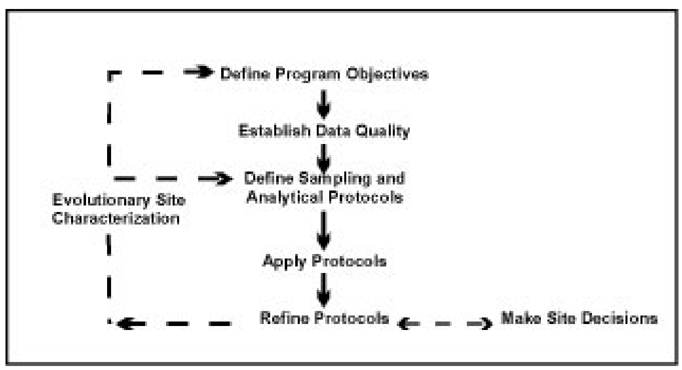

Figure 1. Evolutionary Site Characterization Model

The model emphasizes a recognition of the causes of the variability (e.g., use of inappropriate technology such as using bailers to purge wells; imprecise or operator-dependent methods) and the need to control avoidable errors.

1) Questions of Scale

A sampling plan designed to collect representative samples must take into account the potential scale of changes in site conditions through space and time as well as the chemical associations and behavior of the parameters that are targeted for investigation. In subsurface systems, physical (i.e., aquifer) and chemical properties over time or space are not statistically independent. In fact, samples taken in close proximity (i.e., within distances of a few meters) or within short time periods (i.e., more frequently than monthly) are highly auto-correlated. This means that designs employing high-sampling frequency (e.g., monthly) or dense spatial monitoring designs run the risk of redundant data collection and misleading inferences regarding trends in values that aren't statistically valid. In practice, contaminant detection and assessment monitoring programs rarely suffer these *over-sampling* concerns. In corrective-action evaluation programs, it is also possible that too little data may be collected over space or time. In these cases, false interpretation of the spatial extent of contamination or underestimation of temporal concentration variability may result.

2) Target Parameters

Parameter selection in monitoring program design is most often dictated by the regulatory status of the site. However, background water quality constituents, purging indicator parameters, and contaminants, all represent targets for data collection programs. The tools and procedures used in these programs should be equally rigorous and applicable to all categories of data, since all may be needed to determine or support regulatory action.

C. Sampling Point Design and Construction

Detailed site characterization is central to all decision-making purposes and the basis for this characterization resides in identification of the geologic framework and major hydro-stratigraphic units. Fundamental data for sample point location include: subsurface lithology, head-differences and background geochemical conditions. Each sampling point has a proper use or uses which should be documented at a level which is appropriate for the program's data quality objectives. Individual sampling points may not always be able to fulfill multiple monitoring objectives (e.g., detection, assessment, corrective action).

1) Compatibility with Monitoring Program and Data Quality Objectives

Specifics of sampling point location and design will be dictated by the complexity of subsurface lithology and variability in contaminant and/or geochemical conditions. It should be noted that, regardless of the ground-water sampling approach, few sampling points (e.g., wells, drive-points, screened augers) have zones of influence in excess of a few feet. Therefore, the spatial frequency of sampling points should be carefully selected and designed.

2) Flexibility of Sampling Point Design

In most cases *well-point* diameters in excess of 1 7/8 inches will permit the use of most types of submersible pumping devices for low-flow (minimal drawdown) sampling. It is suggested that *short* (e.g., less than 1.6 m) screens be incorporated into the monitoring design where possible so that comparable results from one device to another might be expected. *Short*, of course, is relative to the degree of vertical water quality variability expected at a site.

3) Equilibration of Sampling Point

Time should be allowed for equilibration of the well or sampling point with the formation after installation. Placement of well or sampling points in the subsurface produces some disturbance of ambient conditions. Drilling techniques (e.g., auger, rotary, etc.) are generally considered to cause more disturbance than *direct-push* technologies. In either case, there may be a period (i.e., days to months) during which water quality near the point may be distinctly different from that in the formation. Proper development of the sampling point and adjacent formation to remove fines created during emplacement will shorten this water quality *recovery* period.

III. Definition of Low-Flow Purging and Sampling

It is generally accepted that water in the well casing is non-representative of the formation water and needs to be purged prior to collection of ground-water samples. However, the water in the screened interval may indeed be representative of the formation, depending upon well construction and site hydrogeology. Wells are purged to some extent for the following reasons: the presence of the air interface at the top of the water column resulting in an oxygen concentration gradient with depth, loss of volatiles up the water column, leaching from or sorption to the casing or filter pack, chemical changes due to clay seals or backfill, and surface infiltration.

Low-flow purging, whether using portable or dedicated systems, should be done using pump-intake located in the middle or slightly above the middle of the screened interval. Placement of the pump too close to the bottom of the well will cause increased entrainment of solids which have collected in the well over time. These particles are present as a result of well development, prior purging and sampling events, and natural colloidal transport and deposition. Therefore, placement of the pump in the middle or toward the top of the screened interval is suggested. Placement of the pump at the top of the water column for sampling is only recommended in unconfined aquifers, screened across the water table, where this is the desired sampling point. Low-flow purging has the advantage of minimizing mixing between the overlying stagnant casing water and water within the screened interval.

A. Low-Flow Purging and Sampling

Low-flow refers to the velocity with which water enters the pump intake and that is imparted to the formation pore water in the immediate vicinity of the well screen. It does not necessarily refer to the flow rate of water discharged at the surface which can be affected by flow regulators or restrictions. Water level drawdown provides the best indication of the stress imparted by a given flow-rate for a given hydrological situation. The objective is to pump in a manner that minimizes stress (drawdown) to the system to the extent practical taking into account established site sampling objectives. Typically, flow rates on the order of 0.1 - 0.5 L/min are used, however this is dependent on site-specific hydrogeology. Some extremely coarse-textured formations have been successfully sampled in this manner at flow rates to 1 L/min. The effectiveness of using low-flow purging is intimately linked with proper screen location, screen length, and well construction and development techniques. The reestablishment of natural flow paths in both the vertical and horizontal directions is important for correct interpretation of the data. For high resolution sampling needs, screens less than 1 m should be used. Most of the need for purging has been found to be due to passing the sampling device through the overlying casing water which causes mixing of these stagnant waters and the dynamic waters within the screened interval. Additionally, there is disturbance to suspended sediment collected in the bottom of the casing and the displacement of water out into the formation immediately adjacent to the well screen. These disturbances and impacts can be avoided using dedicated sampling equipment, which precludes the need to insert the sampling device prior to purging and sampling.

Isolation of the screened interval water from the overlying stagnant casing water may be accomplished using low-flow minimal drawdown techniques. If the pump intake is located within the screened interval, most of the water pumped will be drawn in directly from the formation with little mixing of casing water or disturbance to the sampling zone. However, if the wells are not constructed and developed properly, zones other than those intended may be sampled. At some sites where geologic heterogeneities are sufficiently different within the screened interval, higher conductivity zones may be preferentially sampled. This is another reason to use shorter screened intervals, especially where high spatial resolution is a sampling objective.

B. Water Quality Indicator Parameters

It is recommended that water quality indicator parameters be used to determine purging needs prior to sample collection in each well. Stabilization of parameters such as pH, specific conductance, dissolved oxygen, oxidation-reduction potential, temperature and turbidity should be used to determine when formation water is accessed during purging. In general, the order of stabilization is pH, temperature, and specific conductance, followed by oxidation-reduction potential, dissolved oxygen and turbidity. Temperature and pH, while commonly used as purging indicators, are actually quite insensitive in distinguishing between formation water and stagnant casing water; nevertheless, these are important parameters for data interpretation purposes and should also be measured. Performance criteria for determination of stabilization should be based on water-level drawdown, pumping rate and equipment specifications for measuring indicator parameters. Instruments are available which utilize in-line flow cells to continuously measure the above parameters.

It is important to establish specific well stabilization criteria and then consistently follow the same methods thereafter, particularly with respect to drawdown, flow rate and sampling device. Generally, the time or purge volume required for parameter stabilization is independent of well depth or well volumes. Dependent variables are well diameter, sampling device, hydrogeochemistry, pump flow rate, and whether the devices are used in a portable or dedicated manner. If the sampling device is already in place (i.e., dedicated sampling systems), then the time and purge volume needed for stabilization is much shorter. Other advantages of dedicated equipment include less purge water for waste disposal, much less decontamination of equipment, less time spent in preparation of sampling as well as time in the field, and more consistency in the sampling approach which probably will translate into less variability in sampling results. The use of dedicated equipment is strongly recommended at wells which will undergo routine sampling over time.

If parameter stabilization criteria are too stringent, then minor oscillations in indicator parameters may cause purging operations to become unnecessarily protracted. It should also be noted that turbidity is a very conservative parameter in terms of stabilization. Turbidity is always the last parameter to stabilize. Excessive purge times are invariably related to the establishment of too stringent turbidity stabilization criteria. It should be noted that natural turbidity levels in ground water may exceed 10 nephelometric turbidity units (NTU).

C. Advantages and Disadvantages of Low-Flow (Minimum Drawdown) Purging

In general, the advantages of low-flow purging include:

- samples which are representative of the *mobile* load of contaminants present (dissolved and colloid-associated);
- minimal disturbance of the sampling point thereby minimizing sampling artifacts;
- less operator variability, greater operator control;

- reduced stress on the formation (minimal drawdown);
- less mixing of stagnant casing water with formation water;
- reduced need for filtration and, therefore, less time required for sampling;
- smaller purging volume which decreases waste disposal costs and sampling time;
- better sample consistency; reduced artificial sample variability.

Some disadvantages of low-flow purging are:

- higher initial capital costs,
- greater set-up time in the field,
- need to transport additional equipment to and from the site,
- increased training needs,
- resistance to change on the part of sampling practitioners,
- concern that new data will indicate a *change in conditions* and trigger an *action*.

IV. Low-Flow (Minimal Drawdown) Sampling Protocols

The following ground-water sampling procedure has evolved over many years of experience in ground-water sampling for organic and inorganic compound determinations and as such summarizes the authors' (and others) experiences to date (Barcelona et al., 1984, 1994; Barcelona and Helfrich, 1986; Puls and Barcelona, 1989; Puls et. al. 1990, 1992; Puls and Powell, 1992; Puls and Paul, 1995). High-quality chemical data collection is essential in ground-water monitoring and site characterization. The primary limitations to the collection of *representative* ground-water samples include: mixing of the stagnant casing and *fresh* screen waters during insertion of the sampling device or ground-water level measurement device; disturbance and resuspension of settled solids at the bottom of the well when using high pumping rates or raising and lowering a pump or bailer; introduction of atmospheric gases or degassing from the water during sample handling and transfer, or inappropriate use of vacuum sampling device, etc.

A. Sampling Recommendations

Water samples should not be taken immediately following well development. Sufficient time should be allowed for the ground-water flow regime in the vicinity of the monitoring well to stabilize and to approach chemical equilibrium with the well construction materials. This lag time will depend on site conditions and methods of installation but often exceeds one week.

Well purging is nearly always necessary to obtain samples of water flowing through the geologic formations in the screened interval. Rather than using a general but arbitrary guideline of purging three casing volumes prior to sampling, it is recommended that an in-line water quality measurement device (e.g., flow-through cell) be used to establish the stabilization time for several parameters (e.g. , pH, specific conductance, redox, dissolved oxygen, turbidity) on a well-specific basis. Data on pumping rate, drawdown, and volume required for parameter stabilization can be used as a guide for conducting subsequent sampling activities.

The following are recommendations to be considered before, during and after sampling:

- use low-flow rates (<0.5 L/min), during both purging and sampling to maintain minimal drawdown in the well;
- maximize tubing wall thickness, minimize tubing length;
- place the sampling device intake at the desired sampling point;
- minimize disturbances of the stagnant water column above the screened interval during water level measurement and sampling device insertion;
- make proper adjustments to stabilize the flow rate as soon as possible;
- monitor water quality indicators during purging;
- collect unfiltered samples to estimate contaminant loading and transport potential in the subsurface system.

B. Equipment Calibration

Prior to sampling, all sampling device and monitoring equipment should be calibrated according to manufacturer's recommendations and the site Quality Assurance Project Plan (QAPP) and Field Sampling Plan (FSP). Calibration of pH should be performed with at least two buffers which bracket the expected range. Dissolved oxygen calibration must be corrected for local barometric pressure readings and elevation.

C. Water Level Measurement and Monitoring

It is recommended that a device be used which will least disturb the water surface in the casing. Well depth should be obtained from the well logs. Measuring to the bottom of the well casing will only cause resuspension of settled solids from the formation and require longer purging times for turbidity equilibration. Measure well depth after sampling is completed. The water level measurement should be taken from a permanent reference point which is surveyed relative to ground elevation.

D. Pump Type

The use of low-flow (e.g., 0.1-0.5 L/min) pumps is suggested for purging and sampling all types of analytes. All pumps have some limitation and these should be investigated with respect to application at a particular site. Bailers are inappropriate devices for low-flow sampling.

1) General Considerations

There are no unusual requirements for ground-water sampling devices when using low-flow, minimal drawdown techniques. The major concern is that the device give consistent results and minimal disturbance of the sample across a range of *low* flow rates (i.e., < 0.5 L/min). Clearly, pumping rates that cause minimal to no drawdown in one well could easily cause *significant* drawdown in another well finished in a less transmissive formation. In this sense, the pump should not cause undue pressure or temperature changes or physical disturbance on the water sample over a reasonable sampling range. Consistency in operation is critical to meet accuracy and precision goals.

2) Advantages and Disadvantages of Sampling Devices

A variety of sampling devices are available for low-flow (minimal drawdown) purging and sampling and include peristaltic pumps, bladder pumps, electrical submersible pumps, and gas-driven pumps. Devices which lend themselves to both dedication and consistent operation at definable low-flow rates are preferred. It is desirable that the pump be easily adjustable and operate reliably at these lower flow rates. The peristaltic pump is limited to shallow applications and can cause degassing resulting in alteration of pH, alkalinity, and some volatiles loss. Gas-driven pumps should be of a type that does not allow the gas to be in direct contact with the sampled fluid.

Clearly, bailers and other *grab* type samplers are ill-suited for low-flow sampling since they will cause repeated disturbance and mixing of *stagnant* water in the casing and the *dynamic* water in the screened interval. Similarly, the use of inertial lift foot-valve type samplers may cause too much disturbance at the point of sampling. Use of these devices also tends to introduce uncontrolled and unacceptable operator variability.

Summaries of advantages and disadvantages of various sampling devices are listed in Herzog et al. (1991), U. S. EPA (1992), Parker (1994) and Thurnblad (1994).

E. Pump Installation

Dedicated sampling devices (left in the well) capable of pumping and sampling are preferred over <u>any</u> other type of device. Any portable sampling device should be slowly and carefully lowered to the middle of the screened interval or slightly above the middle (e.g., 1-1.5 m below the top of a 3 m screen). This is to minimize excessive mixing of the stagnant water in the casing above the screen with the screened interval zone water, and to minimize resuspension of solids which will have collected at the bottom of the well. These two disturbance effects have been shown to directly affect the time required for purging. There also appears to be a direct correlation between size of portable sampling devices relative to the well bore and resulting purge volumes and times. The key is to minimize disturbance of water and solids in the well casing.

F. Filtration

Decisions to filter samples should be dictated by sampling objectives rather than as a *fix* for poor sampling practices, and field-filtering of certain constituents should not be the default. Consideration should be given as to what the application of field-filtration is trying to accomplish. For assessment of truly dissolved (as opposed to operationally *dissolved* [i.e., samples filtered with 0.45 µm filters]) concentrations of major ions and trace metals, 0.1 µm filters are recommended although 0.45 µm filters are normally used for most regulatory programs. Alkalinity samples must also be filtered if significant particulate calcium carbonate is suspected, since this material is likely to impact alkalinity titration results (although filtration itself may alter the CO_2 composition of the sample and, therefore, affect the results).

Although filtration may be appropriate, filtration of a sample may cause a number of unintended changes to occur (e.g. oxidation, aeration) possibly leading to filtration-induced artifacts during sample analysis and uncertainty in the results. Some of these unintended changes may be unavoidable but the factors leading to them must be recognized. Deleterious effects can be minimized by consistent application of certain filtration guidelines. Guidelines should address selection of filter type, media, pore size, etc. in order to identify and minimize potential sources of uncertainty when filtering samples.

In-line filtration is recommended because it provides better consistency through less sample handling, and minimizes sample exposure to the atmosphere. In-line filters are available in both disposable (barrel filters) and non-disposable (in-line filter holder, flat membrane filters) formats and various filter pore sizes (0.1-5.0 µm). Disposable filter cartridges have the advantage of greater sediment handling capacity when compared to traditional membrane filters. Filters must be pre-rinsed following manufacturer's recommendations. If there are no recommendations for rinsing, pass through a minimum of 1 L of ground water following purging and prior to sampling. Once filtration has begun, a filter cake may develop as particles larger than the pore size accumulate on the filter membrane. The result is that the effective pore diameter of the membrane is reduced and particles smaller than the stated pore size are excluded from the filtrate. Possible corrective measures include prefiltering (with larger pore size filters), minimizing particle loads to begin with, and reducing sample volume.

G. Monitoring of Water Level and Water Quality Indicator Parameters

Check water level periodically to monitor drawdown in the well as a guide to flow rate adjustment. The goal is minimal drawdown (<0.1 m) during purging. This goal may be difficult to achieve under some circumstances due to geologic heterogeneities within the screened interval, and may require adjustment based on site-specific conditions and personal experience. In-line water quality indicator parameters should be continuously monitored during purging. The water quality indicator parameters monitored can include pH, redox potential, conductivity, dissolved oxygen (DO) and turbidity. The last three parameters are often most sensitive. Pumping rate, drawdown, and the time or volume required to obtain stabilization of parameter readings can be used as a future guide to purge the well. Measurements should be taken every three to five minutes if the above suggested rates are used. Stabilization is achieved after all parameters have stabilized for three successive readings. In lieu of measuring all five parameters, a minimum subset would include pH, conductivity, and turbidity or DO. Three successive readings should be within ± 0.1 for pH, ± 3% for conductivity, ± 10 mv for redox potential, and ± 10% for turbidity and DO. Stabilized purge indicator parameter trends are generally obvious and follow either an exponential or asymptotic change to stable values during purging. Dissolved oxygen and turbidity usually require the longest time for stabilization. The above stabilization guidelines are provided for rough estimates based on experience.

H. Sampling, Sample Containers, Preservation and Decontamination

Upon parameter stabilization, sampling can be initiated. If an in-line device is used to monitor water quality parameters, it should be disconnected or bypassed during sample collection. Sampling flow rate may remain at established purge rate or may be adjusted slightly to minimize aeration, bubble formation, turbulent filling of sample bottles, or loss of volatiles due to extended residence time in tubing. Typically, flow rates less than 0.5 L/min are appropriate. The same device should be used for sampling as was used for purging. Sampling should occur in a progression from least to most contaminated well, if this is known. Generally, volatile (e.g., solvents and fuel constituents) and gas sensitive (e.g., Fe^{2+}, CH_4, H_2S/HS^-, alkalinity) parameters should be sampled first. The sequence in which samples for most inorganic parameters are collected is immaterial unless filtered (dissolved) samples are desired. Filtering should be done last and in-line filters should be used as discussed above. During both well purging and sampling, proper protective clothing and equipment must be used based upon the type and level of contaminants present.

The appropriate sample container will be prepared in advance of actual sample collection for the analytes of interest and include sample preservative where necessary. Water samples should be collected directly into this container from the pump tubing.

Immediately after a sample bottle has been filled, it must be preserved as specified in the site (QAPP). Sample preservation requirements are based on the analyses being performed (use site QAPP, FSP, RCRA guidance document [U. S. EPA, 1992] or EPA SW-846 [U. S. EPA, 1982]). It may be advisable to add preservatives to sample bottles in a controlled setting prior to entering the field in order to reduce the chances of improperly preserving sample bottles or introducing field contaminants into a sample bottle while adding the preservatives.

The preservatives should be transferred from the chemical bottle to the sample container using a disposable polyethylene pipet and the disposable pipet should be used only once and then discarded.

After a sample container has been filled with ground water, a Teflon™ (or tin)-lined cap is screwed on tightly to prevent the container from leaking. A sample label is filled out as specified in the FSP. The samples should be stored inverted at 4°C.

Specific decontamination protocols for sampling devices are dependent to some extent on the type of device used and the type of contaminants encountered. Refer to the site QAPP and FSP for specific requirements.

I. Blanks

The following blanks should be collected:

(1) field blank: one field blank should be collected from each source water (distilled/deionized water) used for sampling equipment decontamination or for assisting well development procedures.

(2) equipment blank: one equipment blank should be taken prior to the commencement of field work, from each set of sampling equipment to be used for that day. Refer to site QAPP or FSP for specific requirements.

(3) trip blank: a trip blank is required to accompany each volatile sample shipment. These blanks are prepared in the laboratory by filling a 40-mL volatile organic analysis (VOA) bottle with distilled/deionized water.

V. Low-Permeability Formations and Fractured Rock

The overall sampling program goals or sampling objectives will drive how the sampling points are located, installed, and choice of sampling device. Likewise, site-specific hydrogeologic factors will affect these decisions. Sites with very low permeability formations or fractures causing discrete flow channels may require a unique monitoring approach. Unlike water supply wells, wells installed for ground-water quality assessment and restoration programs are often installed in low water-yielding settings (e.g., clays, silts). Alternative types of sampling points and sampling methods are often needed in these types of environments, because low-permeability settings may require extremely low-flow purging (<0.1 L/min) and may be technology-limited. Where devices are not readily available to pump at such low flow rates, the primary consideration is to avoid dewatering of the well screen. This may require repeated recovery of the water during purging while leaving the pump in place within the well screen.

Use of low-flow techniques may be impractical in these settings, depending upon the water recharge rates. The sampler and the end-user of data collected from such wells need to understand the limitations of the data collected; i.e., a strong potential for underestimation of actual contaminant concentrations for volatile organics, potential false negatives for filtered metals and potential false positives for unfiltered metals. It is suggested that comparisons be made between samples recovered using low-flow purging techniques and samples recovered using passive sampling techniques (i.e., two sets of samples). Passive sample collection would essentially entail acquisition of the sample with no or very little purging using a dedicated sampling system installed within the screened interval or a passive sample collection device.

A. Low-Permeability Formations (<0.1 L/min recharge)

1. Low-Flow Purging and Sampling with Pumps

a. “portable or non-dedicated mode” - Lower the pump (one capable of pumping at <0.1 L/min) to mid-screen or slightly above and set in place for minimum of 48 hours (to lessen purge volume requirements). After 48 hours, use procedures listed in Part IV above regarding monitoring water quality parameters for stabilization, etc., but do not dewater the screen. If excessive drawdown and slow recovery is a problem, then alternate approaches such as those listed below may be better.

b. “dedicated mode” - Set the pump as above at least a week prior to sampling; that is, operate in a dedicated pump mode. With this approach significant reductions in purge volume should be realized. Water quality parameters should stabilize quite rapidly due to less disturbance of the sampling zone.

2. Passive Sample Collection

Passive sampling collection requires insertion of the device into the screened interval for a sufficient time period to allow flow and sample equilibration before extraction for analysis. Conceptually, the extraction of water from low yielding formations seems more akin to the collection of water from the unsaturated zone and passive sampling techniques may be more appropriate in terms of obtaining “representative” samples. Satisfying usual sample volume requirements is typically a problem with this approach and some latitude will be needed on the part of regulatory entities to achieve sampling objectives.

B. Fractured Rock

In fractured rock formations, a low-flow to zero purging approach using pumps in conjunction with packers to isolate the sampling zone in the borehole is suggested. Passive multi-layer sampling devices may also provide the most “representative” samples. It is imperative in these settings to identify flow paths or water-producing fractures prior to sampling using tools such as borehole flowmeters and/or other geophysical tools.

After identification of water-bearing fractures, install packer(s) and pump assembly for sample collection using low-flow sampling in “dedicated mode” or use a passive sampling device which can isolate the identified water-bearing fractures.

VI. Documentation

The usual practices for documenting the sampling event should be used for low-flow purging and sampling techniques. This should include, at a minimum: information on the conduct of purging operations (flow-rate, drawdown, water-quality parameter values, volumes extracted and times for measurements), field instrument calibration data, water sampling forms and chain of custody forms. See Figures 2 and 3 and “Ground Water Sampling Workshop -- A Workshop Summary” (U. S. EPA, 1995) for example forms and other documentation suggestions and information. This information coupled with laboratory analytical data and validation data are needed to judge the “useability” of the sampling data.

VII. Notice

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VIII. References

Backhus, D,A., J.N. Ryan, D.M. Groher, J.K. McFarlane, and P.M. Gschwend. 1993. Sampling Colloids and Colloid-Associated Contaminants in Ground Water. *Ground Water*, 31(3):466-479.

Barcelona, M.J., J.A. Helfrich, E.E. Garske, and J.P. Gibb. 1984. A laboratory evaluation of groundwater sampling mechanisms. *Ground Water Monitoring Review*, 4(2):32-41.

Barcelona, M.J. and J.A. Helfrich. 1986. Well construction and purging effects on ground-water samples. *Environ. Sci. Technol.,* 20(11):1179-1184.

Barcelona, M.J., H.A. Wehrmann, and M.D. Varljen. 1994. Reproducible well purging procedures and VOC stabilization criteria for ground-water sampling. *Ground Water*, 32(1):12-22.

Buddemeier, R.W. and J.R. Hunt. 1988. Transport of Colloidal Contaminants in Ground Water: Radionuclide Migration at the Nevada Test Site. *Applied Geochemistry*, 3: 535-548.

Danielsson, L.G. 1982. On the Use of Filters for Distinguishing Between Dissolved and Particulate Fractions in Natural Waters. *Water Research*, 16:179.

Enfield, C.G. and G. Bengtsson. 1988. Macromolecular Transport of Hydrophobic Contaminants in Aqueous Environments. *Ground Water,* 26(1): 64-70.

Gschwend, P.M. and M.D. Reynolds. 1987. Monodisperse Ferrous Phosphate Colloids in an Anoxic Groundwater Plume, *J. of Contaminant Hydrol.,* 1: 309-327.

Herzog, B., J. Pennino, and G. Nielsen. 1991. Ground-Water Sampling. In **Practical Handbook of Ground-Water Monitoring** (D.M. Nielsen, ed.). Lewis Publ., Chelsea, MI, pp. 449-499.

Horowitz, A.J., K.A. Elrick, and M.R. Colberg. 1992. The effect of membrane filtration artifacts on dissolved trace element concentrations. *Water Res.,* 26(6):753-763.

Laxen, D.P.H. and I.M. Chandler. 1982. Comparison of Filtration Techniques for Size Distribution in Freshwaters. *Analytical Chemistry*, 54(8):1350.

McCarthy, J.F. and J.M. Zachara. 1989. Subsurface Transport of Contaminants, *Environ. Sci. Technol.*, 5(23):496-502.

McCarthy, J.F. and C. Degueldre. 1993. Sampling and Characterization of Colloids and Ground Water for Studying Their Role in Contaminant Transport. In: Environmental Particles (J. Buffle and H.P. van Leeuwen, eds.), Lewis Publ., Chelsea, MI, pp. 247-315.

Parker, L.V. 1994. The Effects of Ground Water Sampling Devices on Water Quality: A Literature Review. *Ground Water Monitoring and Remediation*, 14(2):130-141.

Penrose, W.R., W.L. Polzer, E.H. Essington, D.M. Nelson, and K.A. Orlandini. 1990. Mobility of Plutonium and Americium through a Shallow Aquifer in a Semiarid Region, *Environ. Sci. Technol.*, 24:228-234.

Puls, R.W. and M.J. Barcelona. 1989. Filtration of Ground Water Samples for Metals Analyses. *Hazardous Waste and Hazardous Materials,* 6(4):385-393.

Puls, R.W., J.H. Eychaner, and R.M. Powell. 1990. Colloidal-Facilitated Transport of Inorganic Contaminants in Ground Water: Part I. Sampling Considerations. EPA/600/M-90/023, NTIS PB 91-168419.

Puls, R.W. 1990. Colloidal Considerations in Groundwater Sampling and Contaminant Transport Predictions. *Nuclear Safety*, 31(1):58-65.

Puls, R.W. and R.M. Powell. 1992. Acquisition of Representative Ground Water Quality Samples for Metals. *Ground Water Monitoring Review,* 12(3):167-176.

Puls, R.W., D.A. Clark, B.Bledsoe, R.M. Powell, and C.J. Paul. 1992. Metals in Ground Water: Sampling Artifacts and Reproducibility. *Hazardous Waste and Hazardous Materials*, 9(2): 149-162.

Puls, R.W. and C.J. Paul. 1995. Low-Flow Purging and Sampling of Ground-Water Monitoring Wells with Dedicated Systems. *Ground Water Monitoring and Remediation,* 15(1):116-123.

Ryan, J.N. and P.M. Gschwend. 1990. Colloid Mobilization in Two Atlantic Coastal Plain Aquifers. *Water Resour. Res.*, 26: 307-322.

Thurnblad, T. 1994. Ground Water Sampling Guidance: Development of Sampling Plans, Sampling Protocols, and Sampling Reports. Minnesota Pollution Control Agency.

U. S. EPA. 1992. RCRA Ground-Water Monitoring: Draft Technical Guidance. Office of Solid Waste, Washington, DC EPA/530/R-93/001, NTIS PB 93-139350.

U. S. EPA. 1995. Ground Water Sampling Workshop -- A Workshop Summary, Dallas, TX, November 30 - December 2, 1993. EPA/600/R-94/205, NTIS PB 95-193249, 126 pp.

U. S. EPA. 1982. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA SW-846. Office of Solid Waste and Emergency Response, Washington, D.C.

Figure 2. **Ground Water Sampling Log**

Project ________________ **Site** ________________ **Well No.** ______________ **Date** ___________________________

Well Depth _____________ **Screen Length** ___________ **Well Diameter** __________ **Casing Type** _____________

Sampling Device ________________ **Tubing type** _______________________ **Water Level** ____________________

Measuring Point ____________________ **Other Infor** ____

____

Sampling Personnel ____

Time	pH	Temp	Cond.	Dis.O_2	Turb.	[ ]Conc			Notes

Type of Samples Collected

____

Information: 2 in = 617 ml/ft, 4 in = 2470 ml/ft: $Vol_{cyl} = \pi r^2 h$, $Vol_{sphere} = 4/3\pi\ r^3$

Figure 3. **Ground Water Sampling Log** (with automatic data logging for most water quality parameters)

Project _______________ **Site** _______________ **Well No.** _____________ **Date** ________________________

Well Depth ____________ **Screen Length** __________ **Well Diameter** _________ **Casing Type** ___________

Sampling Device _______________ **Tubing type** _____________________ **Water Level** _________________

Measuring Point ___________________ **Other Infor** ____

____

Sampling Personnel ____

Time	Pump Rate	Turbidity	Alkalinity	[ ] Conc	Notes

Type of Samples Collected

____

Information: 2 in = 617 ml/ft, 4 in = 2470 ml/ft: $Vol_{cyl} = \pi r^2 h$, $Vol_{sphere} = 4/3\pi\ r^3$

INTRODUCTION

The following Standard Operating Procedure (SOP) is to describe the procedures for collecting representative soil samples. Analysis of soil samples may determine whether concentrations of specific soil pollutants exceed established action levels, or if the concentrations of soil pollutants present a risk to public health, welfare, or the environment. This SOP is similar to SOP Number 1001.03 for collecting near surface soil samples with a hand auger.

PROCEDURE

Surface soil samples may be collected using a variety of methods and equipment. The methods and equipment used are dependent on the depth of the desired sample, the type of sample required (disturbed versus undisturbed), and the type of soil. Near-surface soils may be easily sampled using a spade, trowel, or hand scoop.

<u>Sample Preservation</u>

Cooling to 4°C ± 2°C, supplemented by a minimal holding time, is suggested.

<u>Interferences and Potential Problems</u>

There are two primary interferences or potential problems associated with soil sampling: cross-contamination of samples and improper sample collection. Cross-contamination problems can be eliminated or minimized through the use of dedicated (disposable) sampling equipment. If this is not possible or practical, then decontamination of sampling equipment is necessary. Improper sample collection can involve using contaminated equipment, disturbance of the matrix resulting in compaction of the sample, or inadequate homogenization of the samples where required, resulting in variable, non-representative results. Homogenization may also affect sample representativeness where the analytical requirements include volatile organic compounds.

<u>Equipment or Apparatus</u>

The equipment used for sampling may be selected from the following list, as appropriate:

- Tape measure
- Survey stakes or flags
- Stainless steel, plastic, or other appropriate homogenization bucket or bowl
- Ziploc plastic bags
- Logbook
- Labels
- Chain-of-custody forms and seals
- Coolers
- Ice
- Decontamination supplies and equipment
- Canvas or plastic sheet
- Spatulas/spades/shovels
- Scoops

- Plastic or stainless steel spoons
- Trowel

Preparation

1. Determine the extent of the sampling effort, the sampling methods to be employed, and what equipment and supplies are required.
2. Obtain necessary sampling and monitoring equipment from the list above.
3. Prepare schedules, and coordinate with staff, client, and regulatory agencies, if appropriate.
4. Perform a general site survey prior to site entry in accordance with the site-specific health and safety plan.
5. Decontaminate or preclean equipment, and ensure that it is in working order.
6. Use stakes, buoys, or flagging to identify and mark all sampling locations. Consider specific site factors, including extent and nature of contaminant, when selecting sample locations. If required, the proposed locations may be adjusted based on site access, property boundaries, and surface obstructions. All staked locations will be utility-cleared by the property owner or other responsible party prior to soil sampling.
7. Evaluate safety concerns associated with sampling that may require use of personal protective equipment and/or air monitoring.

Surface Soil Sample Collection

Collect samples from the near-surface soil with tools such as spades, shovels, and scoops. Surface material can be removed to the required depth with this equipment, then a stainless steel or plastic scoop can be used to collect the sample. The use of a flat, pointed mason trowel to cut a block of the desired soil can be helpful when undisturbed profiles are required. A stainless steel scoop, lab spoon, or plastic spoon will suffice in most other applications. Avoid the use of devices plated with chrome or other target analyte materials.

The following procedures should be followed when collecting surface soil samples:

1. Carefully remove the top layer of soil or debris to the desired sample depth with a pre-cleaned spade.
2. Using a pre-cleaned, stainless steel scoop, plastic spoon, or trowel, remove and discard a thin layer of soil from the area which came in contact with the spade.
3. If volatile organic analysis is to be performed, transfer a portion of the sample directly into an appropriate, labeled sample container(s) with a stainless steel lab spoon, plastic lab spoon, or equivalent and secure the cap(s) tightly. Place the remainder of the sample into a stainless steel, plastic, or other appropriate homogenization container, and mix thoroughly to obtain a homogenous sample representative of the entire sampling interval. Then, either place the sample into an appropriate, labeled container(s) and secure the cap(s) tightly; or if composite samples are to be collected, place a sample from another sampling interval into the

homogenization container and mix thoroughly. When compositing is complete, place the sample into appropriate, labeled container(s) and secure the cap(s) tightly.

4. Fill hole created through sampling with unused material or other appropriate backfill material (sand).
5. Record applicable information into field log book or appropriate forms as documentation of sampling.

SOP	**1002.01**				
GROUP	Sampling Procedures				
SUB-GROUP	Surface Water				
TITLE	Surface Water Sampling				
DATE	11/19/2001	FILE	1002-01.DOC	PAGE	1 of 3

INTRODUCTION

The following Standard Operating Procedure (SOP) is to describe the procedures for collecting representative surface water samples. Analysis of surface samples may determine whether concentrations of specific soil pollutants exceed established action levels, or if the concentrations of pollutants present a risk to public health, welfare, or the environment.

PROCEDURE

Surface water samples may be collected using a variety of methods and equipment. The methods and equipment used are usually dependent on the location of the body of water being sampled. Sampling can be performed by merely submerging the sample container, a weighted-bottle sampler with stopper, a bailer, or by pump assisted methods. Several types of pumps can be used for sampling depending on the objectives of sampling and the site conditions.

Sample Preservation

Samples are to be preserved in conformance with the site-specific Quality Assurance Project Plan, Sampling and Analysis Plan or work plan. In general these requirements include refrigeration to 4°C, addition of appropriate additives (HCl, H_2SO_4, NaOH) to adjust and fix pH, and a defined maximum holding time. If a site-specific plan is not available, the analytical laboratory should be consulted for the appropriate preservation procedures.

Interferences and Potential Problems

There are two primary interferences or potential problems associated with surface water sampling: cross-contamination of samples and improper sample collection. Cross-contamination problems can be eliminated or minimized through the use of dedicated sampling equipment. If this is not possible or practical, then decontamination of sampling equipment is necessary. Improper sample collection can involve using contaminated equipment, undue disturbance of the sample matrix, or improper sample location.

Equipment or Apparatus

- Ziploc plastic bags
- Logbook
- Labels
- Chain-of-custody forms and seals
- Coolers
- Ice
- Decontamination supplies and equipment
- Discharge tubing
- Sample containers
- Sampling devices

Preparation

1. Determine the extent of the sampling effort, the sampling methods to be employed, and which equipment and supplies are required.
2. Obtain necessary sampling and monitoring equipment.
3. Decontaminate or preclean equipment, and ensure that it is in working order.
4. Prepare schedules, and coordinate with staff, client, and regulatory agencies, if appropriate.
5. Perform a general site survey prior to site entry in accordance with the site-specific health and safety plan.

Surface Water Sampling

Samples from shallow depths can be readily collected by merely submerging the sample container. In flowing surface water bodies, the container's mouth should be positioned so that it faces upstream, while the sampling personnel stand downstream so as not to stir up sediment that could potentially contaminate the sample.

Collecting a representative sample from a larger body of surface water requires that samples be collected near the shore unless boats are feasible and permitted. If boats are used, the body of water should be cross sectioned, and samples should be collected at various depths across the body of water in accordance with the specified sampling plan. For this type of sampling, a weighted-bottle sampler is used to collect samples at a predetermined depth. The sampler consists of a glass bottle, a weighted sinker, a bottle stopper, and a line that is used to open the bottle and to lower and raise the sampler during sampling. The procedure for use is as follows:

- Assemble the weighted bottle sampler.
- Gently lower the sampler to the desired depth so as not to remove the stopper prematurely.
- Pull out the stopper with a sharp jerk of the sampler line.
- Allow the bottle to fill completely, as evidenced by the cessation of air bubbles.
- Raise the sampler and cap the bottle.
- Wipe the bottle clean. The sampling bottle can be also be used as the sample container for shipping.

Teflon bailers have also been used where feasible for collecting samples in deep bodies of water.

Another method of extending the reach of sampling efforts is the use of a small peristaltic pump. In this method the sample is drawn through heavy-wall Teflon tubing and pumped directly into the sample container. This system allows the operator to reach into the liquid body, sample from depth, or sweep the width of narrow streams.

The general sampling procedures are listed below:

1. Collect the sample using whichever technique, submerged bottle, bottle sampler with stopper, pump & tubing, or bailer.

2. The collected sample may be collected in the sample containers or may be transferred to the appropriate sample containers in order of the volatile organics first and inorganics last.

3. Label sample containers, place on ice in a cooler, remove, and decontaminate equipment as necessary.

REFERENCES

SOP 0110.01 Sample Nomenclature
SOP 1005.01 Field Duplicate Collection
SOP 1005.02 Rinse Blank Preparation
SOP 1005.03 Field Blank Preparation
SOP 1101.01 Sample Custody - Field
SOP 1102.01 Sample Shipping
SOP 1201.01 Sampling Equipment Decontamination
SOP 1501.01 Field Logbook

INTRODUCTION

The following Standard Operating Procedure (SOP) is to describe the procedures for collecting representative sediment samples using a trowel, piston corer, WILDCO KB Core Sampler, a Ponar Grab Sampler, or other similar equipment. Analysis of sediment samples may be performed to determine whether concentrations of specific sediment pollutants exceed established action levels, or if the concentrations of sediment pollutants present a risk to public health, welfare, or the environment.

PROCEDURE

Overview

Sediment samples may be collected using trowels, core and Ponar sampler, or a variety of similar methods and equipment. The methods and equipment used are dependent on the depth of the desired sample, the type of sample required (disturbed versus undisturbed), and the type of sediment (fines versus coarse). Sampling in shallow areas or streams near the surface may only require a hand trowel, while sampling at depth may be performed using a core or Ponar sampler.

Sample Preservation

Refrigeration to 4° C $\pm$ 2° C, supplemented by a minimal holding time, is suggested.

Interferences and Potential Problems

There are two primary interferences or potential problems associated with sediment sampling: cross-contamination of samples and improper sample collection. Cross-contamination problems can be eliminated or minimized through the use of dedicated (disposable) sampling equipment. If this is not possible or practical, then decontamination of sampling equipment is necessary. Improper sample collection can involve using contaminated equipment, disturbance of the matrix resulting in mixing of the sample, or inadequate homogenization of the samples where required, resulting in variable, non-representative results. Homogenization may also affect sample representativeness when the analytical requirements include volatile organic compounds.

Equipment or Apparatus

The equipment selected for the sampling effort may include the following as appropriate:

- Tape measure
- Survey stakes or flags
- Stainless steel, plastic, or other appropriate homogenization bucket or bowl
- Ziploc plastic bags
- Logbook
- Labels
- Chain-of-custody forms and seals
- Coolers
- Ice

- Decontamination supplies and equipment (i.e. brushes and buckets)
- Canvas or plastic sheeting
- Spatulas
- Scoops
- Plastic or stainless steel spoons
- Trowel
- Auger bucket
- Extension rods
- T-handle
- KB Core Sampler
- Ponar Grab Sampler
- Air monitor

<u>Preparation</u>

1. Determine the extent of the sampling effort, the sampling methods to be employed, and which equipment and supplies are required.
2. Obtain necessary sampling and monitoring equipment from the list above. Additional equipment may be added to this list as appropriate to perform other sampling.
3. Decontaminate or preclean equipment, and ensure that it is in working order.
4. Perform a general site survey prior to site entry in accordance with the site-specific health and safety plan.
5. Use stakes, buoys, or flagging to identify and mark all sampling locations. Consider specific site factors, including extent and nature of contaminant, when selecting sample locations. If required, the proposed locations may be adjusted based on site access, property boundaries, and obstructions.

<u>Sediment Sampling in Shallow Waters</u>

The following procedures should be used when collecting sediment samples in shallow waters:

1. Collect sediments as specified in the work plan or as determined during office preparation activities, using a stainless steel trowel, piston corer or similar device and a stainless steel, tempered glass or aluminum container.
2. Standing downstream of the sample stations, collect discrete sediment samples from each station and, if required in the work plan, composite in stainless steel, tempered glass or aluminum container.
3. Collect sediment samples of deposited material from the depth specified in the work plan or as determined during the office preparation activities. Record the depth in the logbook. Selective removal of the top sediment layers may be required and should be accomplished by carefully removing the sediments with a stainless steel trowel or scoop. In streams where water velocity is insufficient to disturb sediment fines during sediment sampling, a stainless

steel trowel or scoop may be used for sampling. Where water velocities are high, a stainless steel corer will be utilized.

4. When applicable, composite discrete sediment samples by placing equal volumes of sediment material collected from the sample points into the container and mixing thoroughly to obtain a homogeneous mixture. Samples may be sieved or hand picked, if necessary, to remove larger materials, such as leaves, sticks, gravel, or rocks. Record in the logbook the nature of any materials removed from the sediment samples.
5. Place each sediment sample into the proper clean, unused sample container, as required by the work plan or laboratory. Sampling personnel must avoid placing sediment into the sample container and decanting off the excess liquid in analyzing for volatile organics and water soluble compounds in the sediment and reduces accurate representation of sediment analysis.
6. Fill out labels with waterproof ink and attach to the sample container.
7. Decontaminate sampling equipment between samples.

Sediment Sampling in Deep Waters

Procedures for sampling in deep waters are the same as for shallow waters except the sampling equipment is different. Soft, fine-grained sediments collected in deep waters will be sampled with a WILDCO KB Core Sampler or similar equipment . Coarse-grained sediments will be collected utilizing a Ponar Grab Sampler or similar equipment. Both samplers will be operated from a boat following appropriate safety procedures. Documentation, containerization, labeling and decontamination procedures are the same as for sediment samples collected in shallow waters.

Sediment Sampling in Drainage Ditches and Intermittent Streams

Procedures for sediment sampling in drainage ditches and the dry portions of intermittent streams are as specified for shallow water sediments.

SOP	**1005.01**				
GROUP	Sampling Procedures				
SUB-GROUP	Field QA/QC Sampling				
TITLE	Field Duplicate Collection				
DATE	4/27/2005	**FILE**	1005-01.DOC	**PAGE**	1 of 2

INTRODUCTION

The following Standard Operating Procedure (SOP) describes the procedure for collecting field duplicate soil and water samples. When samples are collected for analysis, it is typically desired that independent data allowing evaluation of laboratory precision (i.e., the degree to which a laboratory result can be repeated) on site-specific samples be collected.

A field duplicate sample is a second sample collected at the same location as the original sample. Duplicate samples are collected simultaneously or in immediate succession, using identical recovery techniques, and treated in an identical manner during storage, transportation, and analysis. The sample containers are assigned an identification number in the field such that they cannot be identified (blind duplicate) as duplicated samples by laboratory personnel performing the analysis. Specific locations are designated for collection of field duplicate samples prior to the beginning of sample collection.

The duplicate soil sampling procedure is closely related to SOP Nos. 1001.01, 1001.03, and 1001.10 regarding soil sampling procedures. This procedure serves as an alternative method or extension of sample preparation prior to placing the samples in containers, as described in the 1001 series of the SOPs (e.g. 1001.01 and 1001.03).

DUPLICATE SOIL SAMPLING PROCEDURE

The procedure to be used to physically collect soil samples are described in SOP Nos. 1001.01 and 1001.03. Reference should be made to these SOPs for specific sampling equipment, procedures, and other general guidelines. As soil is collected, the following procedure will be used to prepare a field duplicate sample:

- The soil will be collected in general accordance with SOP 1001.01 or 1001.03, with the exception that samples will generally not be immediately placed into sample containers and an additional preparation step (i.e., sample splitting) will be performed.

- As they are collected, soil samples to be submitted as field duplicates will be staged in a clean mixing bowl or mixing bucket.

- For samples that will be analyzed for volatile organic compounds, the soil sample will be split in half and an equal portion of soil will be placed directly into two or more different sample containers, each container representing a different sample for laboratory analysis. The soil will not be homogenized to minimize the potential for volatilization of the organic compounds potentially in the sample.

- For analyses of chemicals other than volatile organic compounds, the soil removed from the discrete sample location will be homogenized in a clean mixing bowl using a clean scoop or spatula (as described in SOPs 1001.01 and 1001.03). Homogenization will generally continue until the discrete samples being combined are reasonably indistinguishable as individual samples in the soil mixture. However, it is recognized that homogenization can be difficult for highly plastic clays. In this case, equal amounts of the soil core of each clay sample will be cut into small, roughly cubical pieces using a stainless steel knife and placed into a bowl and homogenized to extent practical.

- The field duplicate sample (except for volatiles as note above) will be collected from the mixing bowl containing the homogenized samples after homogenization is performed. The composited sample will be collected using a stainless steel or disposable plastic scoop or similar tool. The sample will be placed in a clean sample container and then handled in accordance with soil sampling SOPs 1001.01 and 1001.03.

Another difference from the referenced SOPs is that additional soil volume may need to be collected from a discrete sample location during the sampling process to provide sufficient sample volume for two or more sets of laboratory analyses. If the collection of additional sample volume will result in the sample interval expanding to greater depths or laterally outward, the sampling tools identified in 1001 series of the SOPs can be used at two immediately vertically or laterally adjacent locations, as appropriate. If sampling from two adjacent but distinct locations is necessary to obtain adequate sample volume, the soil from the two locations should be composited in accordance with SOP 1001.10. Field duplicates of composited samples may also be performed using this SOP for field duplicate samples.

Variations on this procedure are allowable to accommodate different soil conditions and any site requirements specifically identified in the site-specific Sampling and Analysis Plan. Equipment that may be used as part of the soil compositing procedure is identified under SOP Nos. 1001.01 and 1001.03 where soil sampling methods are described.

DUPLICATE WATER SAMPLING PROCEDURES

The procedure to be used to physically collect water samples are described in 1002 series of the SOPs (e.g. 1002.01 and 1002.02). Reference should be made to these SOPs for specific sampling equipment, procedures, and other general guidelines. A duplicate water sample will be collected from the same location as the parent sample and within 15 minutes of the collection of the parent sample.

The number of samples that may be submitted as blind field duplicates for the project in question will be specified in the site-specific sampling plan. Blind field duplicates are typically collected at a frequency of 1 per 10 samples of a given environmental media at sites, especially where laboratory analytical data will be used for evaluating regulatory compliance and other engineering judgments. Sampling in support of a routine monitoring program may not require field duplicates. Reference should be made to the site-specific contract and work plans.

REFERENCES

SOP No. 1001.01 - Standard Operating Procedure, Surface Soil Sampling
SOP No. 1001.03 - Standard Operating Procedure, Soil Sampling - Hand Auger Method
SOP No. 1001.10 - Standard Operating Procedure, Soil Compositing

SOP	**1005.02**				
GROUP	Sampling Procedures				
SUB-GROUP	Field QA/QC Sampling				
TITLE	Rinse Blank Preparation				
DATE	2/6/2009	**FILE**	1005-02.DOC	**PAGE**	1 of 1

INTRODUCTION

The following Standard Operating Procedure (SOP) presents a method to prepare a type of quality control sample specific to the field decontamination process, the equipment rinse blank. The rinse blank provides information on the effectiveness of the decontamination process employed in the field. When used in conjunction with field blanks and trip blanks, the rinse blank can be used to assist in evaluating possible compromise of samples from field related activities.

PROCEDURE

The equipment rinse blank is prepared by passing target analyte-free (i.e., deionized) water over and through a field decontaminated sampling device, then collecting the rinse water in appropriate clean sample containers. Rinse blanks will typically be collected from equipment that comes in contact with samples, such as auger buckets, split spoons, bailers, shelby tubes, and stainless steel spoons/trowels. The collected sample will be coded appropriately prior to logging and shipping. Equipment blanks are not required if dedicated sampling equipment is used. Equipment blanks will be collected periodically during the day immediately after decontamination of the sampling equipment being used.

The frequency for collecting equipment blanks will be determined prior to engaging in field activities, and communicated in site-specific quality assurance project plans, sampling and analyses plans, or a type of work plan. Equipment blanks will be collected at a rate relative to each type of sample collection procedure (i.e., surface sample, sample at depth using a hand auger). Equipment blanks will generally be collected at a frequency of 1 per 20 (normal) samples of a given matrix.

SOP	**1101.01**				
GROUP	Sampling Handling				
SUB-GROUP	Sample Custody				
TITLE	Sample Custody in the Field				
DATE	**11/19/2001**	**FILE**	1101-01.DOC	**PAGE**	1 of 4

INTRODUCTION

The following Standard Operating Procedure (SOP) presents procedures for maintaining sample chain of custody (COC) during activities where samples are collected.

PROCEDURE

Sample custody is defined as being under a person's custody if any of the following conditions exist:

- it is in their possession,
- it is in their view, after being in their possession,
- it was in their possession and they locked it up, or
- it is in a designated secure area.

A designated field sampler will be personally responsible for the care and custody of collected samples until they are transferred to another person or properly dispatched to the laboratory. To the extent practicable, as few people as possible will handle the samples.

Sample tags or labels will be completed and applied to the container of each sample. When the tags or labels are being completed, waterproof ink will be used. If waterproof ink is not used, the tags or labels will be covered by transparent waterproof tape. Sample containers may also be placed in Ziploc-type storage bags to help keep them clean in the cooler. Information typically included on the sample tags or labels will include the following:

- Project Code
- Station Number and Location
- Sample Identification Number
- Date and Time of Sample Collection
- Type of Laboratory Analysis Required
- Preservation Required, if applicable
- Collector's Signature
- Priority (optional)
- Other Remarks

Additonal information may include:

- Anticipated Range of Results (Low, Medium, or High)
- Sample Analysis Priority

A COC form will be completed each time a sample or group of samples is prepared for transfer to the laboratory. The form will repeat the information on each of the sample labels and will serve as documentation of handling during shipment. The minimum information requirements of the COC form are listed in Table 1101.01-A. An example COC form is shown in Figure 1101.01-A. The completed COC must be reviewed by the Field Team Leader or Site Manager prior to sample shipment. The COC form will remain each sample shipping container at all times, and another copy will be retained by the member of the sampling team who originally relinquished the samples or in a project file.

TABLE 1101.01-A CHAIN OF CUSTODY FORM

INFORMATION	COMPLETED BY	DESCRIPTION
COC	Laboratory	enter a unique number for each chain of custody form
SHIP TO	Field Team	enter the laboratory name and address
CARRIER	Field Team	enter the name of the transporter (e.g., FedEx) or handcarried
AIRBILL	Field Team	enter the airbill number or transporter tracking number (if applicable)
PROJECT NAME	Field Team	enter the project name
SAMPLER NAME	Field Team	enter the name of the person collecting the samples
SAMPLER SIGNATURE	Field Team	signature of the person collecting the samples
SEND RESULTS TO	Field Team	enter the name and address of the prime contractor
FIELD SAMPLE ID	Field Team	enter the unique identifying number given to the field sample (includes MS, MSD, field duplicate and field blanks)
DATE	Field Team	enter the year and date the sample was collected in the format M/D (e.g., 6/3)
TIME	Field Team	enter the time the sample was collected in 24 hour format (e.g., 0900)
MATRIX	Field Team	enter the sample matrix (e.g., water, soil)
PRESERVATIVE	Field Team	enter the preservative used (e.g., HNO3) or “none”
FILTERED/ UNFILTERED	Field Team	enter “F” if the sample was filtered or “U” if the sample was not filtered
CONTAINERS	Field Team	enter the number of containers associated with the sample
MS/MSD	Field Team or Laboratory	enter “X” if the sample is designated for the MS/MSD
ANALYSES REQUESTED	Field Team	enter the method name of the analysis requested (e.g., SW6010A)
COMMENTS	Field Team	enter comments
SAMPLE CONDITION UPON RECEIPT AT LABORATORY	Laboratory	enter any problems with the condition of any sample(s)
COOLER TEMPERATURE	Laboratory	enter the internal temperature of the cooler, in degrees C, upon opening
SPECIAL INSTRUCTIONS/COMMENTS	Laboratory	enter any special instructions or comments
RELEASED BY (SIG)	Field Team and Laboratory	enter the signature of the person releasing custody of the samples
COMPANY NAME	Field Team and Laboratory	enter the company name employing the person releasing/receiving custody
RECEIVED BY (SIG)	Field Team and Laboratory	enter the signature of the person receiving custody of the samples
DATE	Field Team and Laboratory	enter the date in the format M/D/YY (e.g., 6/3/96) when the samples were released/received
TIME	Field Team and Laboratory	enter the date in 24 hour format (e.g., 0900) when the samples were released/received

FIGURE 1101.01-A CHAIN OF CUSTODY FORM

SOP	**1201.01**				
GROUP	Decontamination				
SUB-GROUP	Sampling Equipment Decontamination				
TITLE	Sampling Equipment Decontamination				
DATE	11/19/2001	**FILE**	1201-01.DOC	**PAGE**	1 of 3

INTRODUCTION

The following Standard Operating Procedure (SOP) presents the methods used for minimizing the potential for cross-contamination, and provides general guidelines for sampling equipment decontamination procedures.

PROCEDURE

As part of the Health and Safety Plan (HASP), develop and set up a decontamination plan before any personnel or equipment enter the areas of potential exposure. The decontamination plan should include the following:

- The number, location, and layout of decontamination stations
- Which decontamination apparatus is needed
- The appropriate decontamination methods
- Methods for disposal of contaminated clothing, apparatus, and solutions

<u>Decontamination Methods</u>

Personnel, samples, and equipment leaving the contaminated area of a site will be decontaminated. Various decontamination methods will be used to either physically remove contaminants, inactivate contaminants by disinfection or sterilization, or both. The physical decontamination techniques appropriate for equipment decontamination can be grouped into two categories: abrasive methods and non-abrasive methods.

Abrasive Cleaning Methods

Abrasive cleaning methods work by rubbing/scrubbing the surface containing the contaminant. This method includes mechanical and wet blasting methods.

Mechanical cleaning methods use brushes of metal or nylon. The amount and type of contaminants removed will vary with the hardness of bristles, length of brushing time, and degree of brush contact.

Cleaning can also be accomplished by water blasting which is also referred to as steam cleaning and pressure washing. Pressure washing utilizes high-pressure that is sprayed from a nozzle onto sampling equipment to physically remove soil or (potentially) contaminated material. Steam cleaning is a modification of pressure washing where the water is heated to temperatures approaching 100°C to assist in removing organic constituents from equipment.

Disinfection/Rinse Methods

Disinfectants are a practical means of inactivating chemicals or contaminants of concern. Standard sterilization methods involve heating the equipment which is impractical for large equipment. Rinsing removes contaminants through dilution, physical attraction, and solubilization.

The use of distilled/deionized water commonly available from commercial vendors may be acceptable for decontamination of sampling equipment provided that it has been verified by laboratory analysis to be target analyte free. Tap water may be used from any municipal water treatment system for mixing of decontamination solutions. An untreated potable water supply is not an acceptable substitute for tap water. Acids and solvents are occasionally utilized in decontamination of equipment to remove metals and organics, respectively, from sampling equipment. Other than ethanol, these are avoided when possible due to the safety, disposal, and transportation concerns associated with them.

Equipment or apparatuses that may be selected for use include the following:

- Personal protective clothing
- Non-phosphate detergent
- Selected solvents for removal of polar and nonpolar organics (ethanol, methanol, hexane)
- Acid washes for removal of metals (nitric acid)
- Long-handled brushes
- Drop cloths or plastic sheeting
- Paper towels
- Galvanized tubs or buckets
- Distilled, deionized, or tap water (as required by the project)
- Storage containers for spent wash solutions
- Sprayers (pressurized and non-pressurized)
- Trash bags
- Safety glasses or splash shield

<u>Field Sampling Equipment Cleaning Procedures</u>

The following procedures should be followed:

1. Where applicable, follow physical removal procedures previously described (pressure wash, scrub wash)
2. Wash equipment with a non-phosphate detergent solution
3. Rinse with tap water
4. Rinse with distilled or deionized water
5. Rinse with 10% nitric acid if the sample will be analyzed for metals/organics
6. Rinse with distilled or deionized water
7. Use a solvent rinse (pesticide grade) if the sample will be analyzed for organics
8. Air dry the equipment completely
9. Rinse again with distilled or deionized water

10. Place in clean bag or container for storage/transport to subsequent sampling locations.

Selection of the solvent for use in the decontamination process is based on the contaminants present at the site. Solvent rinses are not necessarily required when organics are not a contaminant of concern and may be eliminated from the sequence specified below. Similarly, an acid rinse is not required if the analyses do not include inorganics. Use of a solvent is required when organic contamination is present on-site. Typical solvents used for removal of organic contaminants include acetone, ethanol, hexane, methanol, or water. An acid rinse step is required if metals are present on-site. If a particular contaminant fraction is not present at the site, the ten-step decontamination procedure listed above may be modified for site specificity.

Sampling equipment that requires the use of plastic tubing should be disassembled and the tubing replaced with clean tubing before commencement of sampling and between sampling locations. Plastic tubing should not be reused.

SOP	**1501.01**				
GROUP	Field Documentation				
SUB-GROUP					
TITLE	Field Logbook				
DATE	11/19/2001	FILE	1501-01.DOC	PAGE	1 of 3

INTRODUCTION

The following Standard Operating Procedure (SOP) presents the procedures for documenting activities observed or completed in the field in a field logbook. The documentation should represent all activities of WESTON personnel and entities under WESTON's supervision.

TERMS

FSP - Field Sampling Plan

SAP - Sampling and Analysis Plan

QAPP - Quality Assurance Project Plan

HASP - Health and Safety Plan

PROCEDURE

Field logbooks will be used and maintained during field activities to document pertinent information observed or completed by WESTON personnel or entities that WESTON is responsible for providing oversight. Field logbooks are legal documents that form the basis for later written reports and may serve as evidence in legal proceedings. The Site Manager or Field Team Leader will review field log entries daily and initial each page of entries. Field logbooks will be maintained by the Site Manager or Field Team Leader during field activities and transferred to the project files for a record of activities at the conclusion of the project. General logbook entry procedures are listed below.

- Logbooks must be permanently bound with all pages numbered to the end of the book. Entries should begin on page 1.
- Only use blue or black ink (waterproof) for logbook entries.
- Sign entries at the end of the day, or before someone else writes in the logbook.
- If a complete page is not used, draw a line diagonally across the blank portion of the page and initial and date the bottom line.
- If a line on the page is not completely filled, draw a horizontal line through the blank portion.
- Ensure that the logbook clearly shows the sequence of the day's events.
- Do not write in the margins or between written lines, and do not leave blank pages to fill in later.
- If an error is made, make corrections by drawing a single line through the error and initialing it.
- Maintain control of the logbook and keep in a secure location.

Field logbooks will contain, at a minimum, the following information, if applicable:

General Information

- Name, location of site, and work order number
- Name of the Site Manager or Field Team Leader
- Names and responsibilities of all field team members using the logbook (or involved with activities for which entries are being made)
- Weather conditions
- Field observations
- Names of any site visitors including entities that they represent

Sample Collection Activities

- Date(s) and times of the sample collection or event.
- Number and types of collected samples.
- Sample location with an emphasis on any changes to documentation in governing documents (i.e., SAP, FSP). This may include measurements from reference points or sketches of sample locations with respect to local features.
- Sample identification numbers, including any applicable cross-references to split samples or samples collected by another entity.
- A description of sampling methodology, or reference to any governing document (i.e., FSP, SAP, QAPP).
- Summary of equipment preparation and decontamination procedures.
- Sample description including depth, color, texture, moisture content, and evidence of waste material or staining.
- Air monitoring (field screening) results.
- Types of laboratory analyses requested.

Site Health and Safety Activities

- All safety, accident, and/or incident reports.

- Real-time personnel air monitoring results, if applicable, or if not documented in the HASP.

- Heat/cold stress monitoring data, if applicable.

- Reasons for upgrades or downgrades in personal protective equipment.

- Health and safety inspections, checklists (drilling safety guide), meetings/briefings.

- Calibration records for field instruments.

Oversight Activities

- Progress and activities performed by contractors including operating times.

- Deviations of contractor activities with respect to project governing documents (i.e., specifications).

- Contractor sampling results and disposition of contingent soil materials/stockpiles.

- Excavation specifications and locations of contractor confirmation samples.

- General site housekeeping and safety issues by site contractors.

SOP	**1502.01**				
GROUP	Field Documentation				
SUB-GROUP					
TITLE	Photograph Logs				
DATE	11/19/2001	FILE	1502-01.DOC	PAGE	1 of 1

INTRODUCTION

The following Standard Operating Procedure (SOP) presents the requirements for collecting information related to photodocumentation of site activities.

PROCEDURE

- Uniquely number each roll of film obtained for use.
- Record the following information for each negative exposed:
    1. Date and Time
    2. Photographer Name
    3. Witness Name
    4. Orientation (Landscape, Portrait, or Panaoramic)
    5. Description (including activity being performed, specific equipment of interest, sample location(s), compass direction photographer is facing)
- Record “NA” for the negatives not used if the roll is not completely used prior to development.
- Record unique roll number on receipt when film is submitted for development.
- Verify descriptions on log with negative numbers when photographs are received from processing.

FORMS

Blank Photograph Logs can be printed from WESTON On-Line from the *Records Management Application.* Selecting the *Reports/Project Planning/Blank Photo Logs* menu option will generate a project specific log with 36 entries.

INTRODUCTION

The following Standard Operating Procedure (SOP) presents the sample nomenclature for analytical samples that will generate unique sample names compatible with most data management systems. The sample nomenclature is based upon specific requirements for the reporting of these results. A site specific data management plan should be prepared prior to sample collection.

PROCEDURE

SAMPLE NOMENCLATURE – SOIL AND SEDIMENT

Area of Concern – ID – Depth - Collection Type + QC Type

Where:

Area of Concern: A four-digit identifier used to designate the particular Area of Concern (AOC) that the location where the sample was collected.

ID: A three-digit identifier used to designate the particular location in the AOC from which the sample was collected or the center of the composite sample.

Depth: A two-digit code used to designate what depth of sample was collected:

03	0 to 3 inches
06	3 to 6 inches
12	6 to 12 inches

Collection Type: A one-digit code used to designate what type of sample was collected:

1	Surface Water	6	Oil
2	Ground Water	7	Waste
3	Leachate	8	Other
4	Field QC/water sample	9	Drinking Water
5	Soil/Sediment		

QC Type: A one-digit code used to designate the QC type of the sample:

1	Normal
2	Duplicate
3	Rinsate Blank
4	Trip Blank
5	Field Blank
6	Confirmation

Examples:

- ***2054-055-06-51:*** Represents the normal soil sample collected from AOC 2054 at location 055 from 3 to 6 inches of depth.
- ***2054-055-06-52***: Represents the duplicate soil sample collected from AOC 2054 at location 055 from 3 to 6 inches of depth.
- ***2054-055-06-43***: Represents the rinsate water sample collected after the last sample of the day if last sample was collected from AOC 2054 at location 055 from 3 to 6 inches of depth.

SAMPLE NOMENCLATURE – WATER (from fixed station or location to be sampled more than once)

WELL OR STATION – YYYYMMDD - Collection Type + QC Type

Where:

Well or Station: For Wells and boreholes always assume there will be 10 or more so Monitoring Well 1 becomes designated MW01 or MW-01. If it is anticipated that there will be over 100 wells designate Monitoring Well 1 as MW001 or MW-001.

YYYYMMDD: A four-digit year + two-digit month + two-digit day

Collection Type: A one-digit code used to designate what type of sample was collected and are shown on page 1.

QC Type: A one-digit code used to designate the QC type of the sample and are shown on page 1.

Examples:

- ***MW01-20090226-21:*** Represents the normal groundwater sample collected from Monitoring Well 1 on 26 February 2009.
- ***MW01-20090226-44:*** Represents the trip blank in the same ice chest as the groundwater sample in the previous collected from Monitor Well 1 on 02/26/2009. All trip blanks must have a sample ID and they must be unique and on the Chain-of -Custody.
- ***2054-000-00-43:*** Represents the rinsate sample from AOC 2054

APPENDIX B

SITE-SPECIFIC DATA QUALITY OBJECTIVES

SITE-SPECIFIC DATA QUALITY OBJECTIVES
JOHNNY M URANIUM MINE

<table>
<tr><th colspan="2">STEP 1. STATE THE PROBLEM</th></tr>
<tr><td colspan="2">Legacy uranium mine sites in the Grants Mining District of northwest New Mexico may contain soil/sediment and mine waste rock that are elevated in trace metals and radionuclides above background concentrations which may pose a hazard to human health and the environment.</td></tr>
<tr><th colspan="2">STEP 2. IDENTIFY THE DECISION</th></tr>
<tr><td colspan="2">Does the soil environment at the generic uranium mine site contain hazardous and radiological materials at concentrations that: 1) equals or exceeds a value of two standard deviations above the mean site-specific background concentration for a specific radionuclide; or 2) exceeds three times the natural background concentrations for the specific radionuclide, whichever is lower. If these concentrations satisfy the criteria in 1) and 2), the conditions constitute and establish an “observed release” per the HRS Guidance Manual, Section 5.1 page 55; and the CERCLA SI Guidance in Section 4.9.4 page 89-90, (EPA/540-R-92-021).</td></tr>
<tr><td>IDENTIFY THE ALTERNATIVE ACTIONS THAT MAY BE TAKEN BASED ON THE DECISIONS.</td><td>If the concentrations of hazardous and radiological materials in soil at the uranium mine site constitute an observed release, then further remedial action under CERCLA will be recommended.</td></tr>
<tr><th colspan="2">STEP 3. IDENTIFY INPUTS TO THE DECISION</th></tr>
<tr><td>INFORMATIONAL INPUTS NEEDED TO RESOLVE A DECISION.</td><td>Elevated metal and radionuclide concentrations in soil at the uranium mine site are equal to or exceed two standard deviations above the mean site-specific background concentrations.
Elevated metal and radionuclide concentrations in soil at the uranium mine site are equal to or exceed by three times the mean background concentrations for radiological measurement and soil sampling.</td></tr>
<tr><td>SOURCES FOR EACH INFORMATIONAL INPUT AND INPUTS THAT ARE OBATINED THROUGH ENVIRONMENTAL MEASUREMENTS.</td><td>Radiological gamma survey measurements with handheld NaI detector instrument conducted at 50 ft to 150’ grid spacing across site area and at unique site features.
Background radiological measurements collected at four or more off site locations will provide an average background radioactivity concentration for comparison.
Field measurements of gamma activity are collected and the field variance is calculated to determine the number of soil/sediments to be collected.
Background surface soil samples analyzed by a laboratory for 23 metals and isotopes of three or four radionuclides.
Suspected hot spot soil locations within the mine site property analyzed by a laboratory for 23 metals and isotopes of three or four radionuclides.</td></tr>
</table>

SITE-SPECIFIC DATA QUALITY OBJECTIVES
JOHNNY M URANIUM MINE
(Continued)

STEP 3. IDENTIFY INPUTS TO THE DECISION (Continued)	
BASIS FOR THE CONTAMINANT SPECIFIC ACTION LEVELS.	• Concentrations of hazardous materials and radionuclides more than three times the background concentrations constitute and "observed release" per the HRS Guidance Manual, Section 5.1 page 55. • Concentrations of metal and radionuclide concentrations in soil/sediment that are equal to or exceed two standard deviations above the mean site-specific background concentrations constitute an observed release per Section 4.9.4 (page 89) of the guidance document for performing site inspections under CERCLA.
POTENTIAL SAMPLING TECHNIQUES AND APPROPRIATE ANALYTICAL METHODS.	• Gamma radioactivity concentrations in cpm and/or uR/hr (dose) will be determined using field instruments to measure radioactivity on the soil surface and at 3 ft high for a 60 second count rate. • Gamma measurements will be used to calculate the average background concentration, the average site concentration, the range, and the field variance. • The field variance will be used to calculate the number of soil/sediment samples required for laboratory analysis to characterize the specific radionuclide concentrations. • The number of soil/sediments samples will be determined by a calculation using the field variance, Upper Confidence Level 95% (90% or 80% if necessary) and a margin of error at 0.20. • Laboratory analyte concentrations for specific metals and radionuclides will be used to calculate: the background mean concentrations, the site mean concentrations, the range, and the variance.
STEP 4. DEFINE THE BOUNDARIES OF THE STUDY	
DOMAIN OF GEOGRAPHIC AREA WITHIN WHICH ALL DECISIONS MUST APPLY.	Property boundary surrounding uranium mine site and/or all areas suspected of impact by mine activities and/or natural erosion processes that may have dispersed on-site materials beyond property boundaries.
CHARACTERISTICS THAT DEFINE THE POPULATION OF INTEREST.	Gamma radiation and radionuclide concentration measured in soil/sediments impacted by mine waste rock.
DETERMINATION OF WHEN TO COLLECT DATA.	• Data will be collected after target uranium mine sites are identified and access is acquired from land owners. • Field measurements of background gamma activity and site specific activity will be collected using a grid system. • Determination of the field variance from the field measurements will be used in a formula to calculate the number of soil/sediments to be collected for laboratory analysis.

SITE-SPECIFIC DATA QUALITY OBJECTIVES
JOHNNY M URANIUM MINE
(Continued)

STEP 4. DEFINE THE BOUNDARIES OF THE STUDY (Continued)	
PRACTICAL CONSTRAINTS ON DATA COLLECTION.	• Access to the site and/or appropriate background area is not attainable due to landowner and/or physical constraints. • Field radiological measurements may be unreliable due to excessive soil moisture, inclement weather, equipment malfunction, or operator error. • Erroneous determination of field gamma activity measurements and subsequent erroneous calculation of the field variance may result in an inadequate number of soil/sediments collected for laboratory analysis.
STEP 5. DEVELOP A DECISION RULE	
SPECIFY THE PARAMETER THAT CHARACTERIZES THE POPULATION OF INTEREST.	• Field measurements of gamma radioactivity will be used to calculate: the mean background gamma concentration; the on-site mean gamma concentration; the on-site range of gamma concentrations; and the field variance of the on-site gamma concentration. • The on-site gamma concentrations will be compared to the mean background gamma concentration of the mine site to determine if the concentration is equal to or two times the mean. • Laboratory analyte concentrations for specific metals and radionuclides will be used to calculate the specific mean background soil/sediment mean concentrations; the specific on-site mean soil/sediment concentrations; the range of on-site specific concentrations; and the statistical variability of on-site concentrations, e.g., the sample variance and standard deviation. • Laboratory analyte concentrations that are equal to or exceed three times the mean background concentrations will be characterized an observed release. • Laboratory analyte concentrations that are equal to or exceed two standard deviations above the mean background concentration will be characterized as an observed release.
SPECIFY THE ACTION LEVEL FOR THE DECISION.	• Field measurements of gamma radioactivity that are equal to or exceed twice the mean background gamma activity concentration. • Laboratory analyte concentrations that are equal to or exceed three times the mean background concentrations will be characterized an observed release. • Laboratory analyte concentrations that are equal to or exceed two standard deviations above the mean background concentration will be characterized as an observed release.
DECISION RULES.	• If on-site field gamma activity measurements exceed the mean background gamma activity concentration by more than two times, the likelihood of an observed release is high.

SITE-SPECIFIC DATA QUALITY OBJECTIVES
JOHNNY M URANIUM MINE
(Continued)

STEP 6. SPECIFY LIMITS ON DECISION ERRORS	
DETERMINE THE POSSIBLE RANGE OF THE PARAMETER OF INTEREST.	• Limit for uncertainty in measurement is 20% (0.20) at a 95% confidence level for the data set. • Mean background gamma radioactivity concentrations typically range from 12-20 uR/hr or less than 3,000 to 5,000 cpm. • On-site uranium mine waste rock gamma radioactivity concentrations may range over 200 uR/hr & higher, or several tens or hundreds of thousands cpm (>> 10,000-100,000 cpm). • Background concentration of radium-226 in soil is generally 1.0-1.5 pCi/g. • Uranium mass concentrations in soil typically measure 3 ug/g or 2 pCi/g. • Uranium mine site waste rock concentrations of radium-226 may exceed 100 pCi/g.
DEFINE BOTH TYPES OF DECISION ERRORS AND IDENTIFY THE POTENTIAL CONSEQUENCES OF EACH.	Type I Error: Deciding that the uranium mine site is represented by field measurements and/or sample results does not exceed three times the mean background concentration or two standard deviations above the mean background concentration when, in truth, it does. The consequence of this decision error is that the soil/sediment/waste rock material will remain in place, un-remediated, possibly presenting a hazard to human health and the environment. This decision error is the most severe. Type II Error: Deciding that the uranium mine site area represented by field measurements and/or sample results does exceed the mean background concentration by three times or two standard deviations when, in truth, it does not. The consequences of this decision error further remedial action under CERCLA will continue and potentially divert resources from higher priority sites.
TRUE STATE OF NATURE FOR EACH DECISION RULE.	Type I: The field and laboratory measurements of hazardous materials and radionuclide concentrations in soil are greater than three times or two standard deviations above the mean background concentrations. Type II: The field and laboratory measurements of hazardous materials and radionuclide concentrations in soil are less than three times or two standard deviations above the mean background concentrations.
DEFINITION OF THE TRUE STATE OF NATURE FOR THE MORE SEVERE DECISION ERROR AS THE BASELINE CONDITION OR THE NULL HYPOTEHESIS (H_o) AND FOR THE LESS SEVERE DECISION ERROR AS THE ALTERNATIVE HYPOTEHSIS (H_a).TRUE STATE OF NATURE FOR EACH DECISION RULE.	Type I: Ambient radioactivity levels impact human health. Type II: Ambient radioactivity levels do not impact human health.

STEP 7. OPTIMIZE THE DESIGN	
REVIEW THE DQOs.	Determine what else can be done to improve the methodology. Get some internal and external review by other staff and agencies. Test implementation of proposed design/methodology at one or two sties then review lessons learned. Make adjustments in design and improve methodology with more sites over time.
DEVELOP GENERAL SAMPLING AND ANALYSIS DESIGN. Up to 15 soil samples will be collected from the uranium mine pits and waste areas within the Johnny M Uranium Mine and analyzed to determine the presence of metals and radionuclides above background concentrations.	

APPENDIX C

TDD No. 0035-11-11-01

EPA

U.S. EPA
Washington, DC 20460

START3
Technical Direction Document

Assessment/Inspection Activities -
Enforcement Funds (0035)
Weston Solutions, Inc.

TDD #: TO-0035-11-11-01
Contract: EP-W-06-042

! = required field ☐ Moved To EAS

Note: Remaining Amount includes $0.00 in Reserve.

TDD Name:	Johnny M Uranium Mine ORS	! Period:	Base Period
! Purpose:	Work Assignment Initiation		
! Priority:	High	! Start Date:	12/13/2011
Overtime:	Yes	! Completion Date:	02/15/2012
! Funding Category:	Removal	Invoice Unit:	
! Project/Site Name:	Johnny M Uranium Mine ORS	WorkArea:	ASSESSMENT/INSPECTIONS ACTIVITIES
Project Address:		Activity:	Expanded Site Inspections/Remedial Investigation (ESI/RI)
County:	McKinley	Work Area Code:	
City, State:	, NM	Activity Code:	
Zip:		EMERGENCY CODE:	☐ KAT ☐ RIT
! SSID:	A6AH	FPN:	
CERCLIS:	NMN0006607139	Performance Based:	No
Operable Unit:			

Authorized TDD Ceiling:	Cost/Fee	LOE (Hours)
Previous Action(s):	$0.00	0.0
This Action:	$26,661.00	0.0
New Total:	$26,661.00	0.0

Specific Elements

Description of Work:

All activities performed in support of this TDD shall be in accordance with the contract and TO PWS.

Funding for this TDD is from a sweep of the dollars from the United Western TDD. The Grants Mining District provided significant uranium extraction and production in New Mexico from the 1950s until late into the 20th century. There are three mining sub-districts within the Grants Mining District: Ambrosia Lake, Laguna, and Marquez. Land ownership within these sub-districts consists of public, tribal and private property. These mining sub-districts contain 97 former legacy uranium mines and five mill sites. The EPA is currently assessing the mine sites for releases that may have impacted soil, surface water and groundwater. Under this TDD, the contractor will investigate mine water discharge locations, sample potentially impacted soil for elevated concentrations of elemental uranium and radionuclides, sample any surface water present for metals and radionuclides, and sample any accessible groundwater wells in the immediate area of the Johnny M Mine site in the Ambrosia Lake sub-district. The contractor will document mine site features (e.g. open mine portals, waste rock piles, mine operation-related structures, etc.) and sample locations with photographs, descriptions, and geospatially. A draft and final report will be written for the mine site. Coordinate with SAM, Lisa Price at price.lisa@epa.gov or 214-665-6744, upon receipt of the TDD.

Accounting and Appropriation Information

SFO: 22

Line	DCN	IFMS	Budget/ FY	Appropriation Code	Budget Org Code	Program Element	Object Class	Site Project	Cost Org Code	Amount
1	ENC036	XXX	11	T	06S	302EC7C	2505	A6AH??00	C001	$9,541.00
2	ENC035	XXX	11	TCD	06S	302EC7C	2505	A6AH??00	C001	$17,120.00

Funding Summary:	Funding
Previous:	$0.00
This Action:	$26,661.00
Total:	$26,661.00

Funding Category
Removal

Section
- Signed by Terri Lewis/DC/USEPA/US on 12/06/2011 12:49:27 PM, according to Jeff Criner/start6/rfw-s

: Lisa Price Date: 11/29/2011
Phone #:

Project Officer Section - Signed by Cora Stanley/R6/USEPA/US on 12/13/2011 09:32:41 AM, according to Jef

Project Officer: Linda Carter Date: 12/13/2011

Contracting Officer Section - Signed by Cora Stanley/R6/USEPA/US on 12/13/2011 09:32:41 AM, according t

Contracting Officer: Cora Stanley Date: 12/13/2011

Contractor Section - Signed by Terri Lewis/DC/USEPA/US on 12/06/2011 12:49:27 PM, according to Jeff

Contractor Contact: Date:

APPENDIX D

LABORATORY DATA PACKAGES

WESTON SOLUTIONS, INC.

Johnny M ORS

STANDARD LEVEL IV
REPORT OF ANALYSIS

WORK ORDER #12-01163-OR

March 7, 2012

EBERLINE ANALYTICAL/OAK RIDGE LABORATORY
OAK RIDGE, TN

TABLE OF CONTENTS

Eberline Services – Oak Ridge Laboratory

LABORATORY DATA SUPPORT CHECKLIST

MP-001-3

Eberline Services Work Order # **12-01163**

The checklist items listed below are to be initialed by appropriate staff upon completion/verification.

Date for Partial	Initials	Date	Initials	Checklist Items
		1-31-12	JWM	Sample Log-In
		2/24/12	KW	Data Compilation
		2-27-12	MT	First Technical Data Review
		2/27/12	AH	Second Technical Data Review
		3/5/12		Data Entry/Electronic Deliverable
		3/5/12		Case Narrative
		3/7/12	KBS	Electronic Deliverable Proof
		3/7/12		Samples Analyzed within Holding Time YES Yes? ☐ No? ☐
		3/7/12		QA/QC Review
				Client in Possession of Data Electronic or Hard Copy
				Invoiced by Laboratory

Technical/Clerical Corrections, Signatures Needed, Problems, Etc	**Date/Initials**

Date package approved by: ______________________ 3/7/12

Laboratory Manager Date

SECTION I

CHAIN OF CUSTODY

USEPA
DateShipped: 1/30/2012
CarrierName: FedEx
AirbillNo: 793168105412

CHAIN OF CUSTODY RECORD
Johnny M ORS
Contact Name: Kristie Warr
Contact Phone: 713-985-6600

12-01163

No: TO0035111101-120130-0001
Cooler #: 1
Lab: Eberline Services
Lab Phone: 865-481-0683

Lab #	Sample #	Analyses	Matrix	Collected	Sample Time	Container	Preservative	MS/MSD	Samp_Concentration
4	JM-70-32-120128	Gamma Spectroscopy	Soil	1/28/2012	17:00	16 oz jar	None	N	381,092 cpm
5	JM-70-31-120128	Gamma Spectroscopy	Soil	1/28/2012	17:00	16 oz jar	None	N	381,092 cpm
6	JM-88-31-120128	Gamma Spectroscopy	Soil	1/28/2012	16:34	16 oz jar	None	N	265,129 cpm
7	JM-77-31-120128	Gamma Spectroscopy	Soil	1/28/2012	16:55	16 oz jar	None	N	282,248 cpm
8	JM-65-31-120128	Gamma Spectroscopy	Soil	1/28/2012	17:02	16 oz jar	None	N	342,018 cpm
9	JM-66-31-120128	Gamma Spectroscopy	Soil	1/28/2012	17:05	16 oz jar	None	N	269,876 cpm
10	JM-73-31-120128	Gamma Spectroscopy	Soil	1/28/2012	16:57	16 oz jar	None	N	209,993 cpm
11	JM-55-31-120128	Gamma Spectroscopy	Soil	1/28/2012	17:10	16 oz jar	None	N	156,052 cpm
12	JM-82-31-120128	Gamma Spectroscopy	Soil	1/28/2012	16:45	16 oz jar	None	N	228,461 cpm
13	JM-84-31-120128	Gamma Spectroscopy	Soil	1/28/2012	16:38	16 oz jar	None	N	117,322 cpm
14	JM-54-31-120128	Gamma Spectroscopy	Soil	1/28/2012	17:12	16 oz jar	None	N	251,115 cpm
15	JMBKGD-NW-31-120128	Gamma Spectroscopy	Soil	1/28/2012	09:10	16 oz jar	None	N	13,502 cpm
16	JMBKGD-NE-31-120128	Gamma Spectroscopy	Soil	1/28/2012	09:41	16 oz jar	None	N	9,938 cpm

Special Instructions: Level IV Deliverable, Standard TAT

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
13/Samples	[signature]	1/30/12	[signature]	1.31.12	0834						

REC'D JAN 31 2012

0005

EBERLINE SERVICES Oak Ridge Laboratory	Internal Chain of Custody	Work Order #	12-01163
		Lab Deadline	2/21/2012
		Analysis	Gamma - Level 4
		Sample Matrix	Soil/Solid

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
21 day ingrowth: Report Ac228, Bi214, K40, Pa234m, Pb212/214, Th234, Tl208, Ra226 from Bi214 & any positives.	04	254	M1.3
	05	262	M1.3
	06	207	M1.3
	07	181	M1.3
	08	213	M1.3
	09	170	M1.3
	10	131	M1.3
	11	123	M1.3
	12	109	M1.3
	13	56	M1.3
	14	105	M1.3
	15	47	M1.3
	16	50	M1.3

	Location (circle one)					Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room 1300	Kenyseli	1-31-12
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room 0910	Kenyseli	2-1-12
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room 0910	—	2-1-12
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	KB 2/20/12	1529
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		

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SECTION II

SAMPLE ACKNOWLEDGEMENT

Client Name	Contract/PO	Project Type	Date Received	Required Turnaround Days	Eberline Services Work Order
Weston Solutions, Inc.	**0070138**	Environmental	**01/31/2012**	**28**	**12-01163**
Project Name	**Client WO**	**Sample Disp**	**Lab Deadline**	**Internal Deadline**	**Client Deadline**
0070138 U Mines	**Johnny M ORS**	**H**	**02/21/2012**	**02/27/2012**	**02/28/2012**

Internal ID	Client ID	Sample Date	Matrix	Storage	Gamma	Ttl
01	LCS	01/31/12	SO	M1.3	X	1
02	BLANK	01/31/12	SO	M1.3	X	1
03	DUP	01/31/12	SO	M1.3	X	1
04	JM-70-32-120128	01/28/12 17:00	SO	M1.3	X	1
05	JM-70-31-120128	01/28/12 17:00	SO	M1.3	X	1
06	JM-88-31-120128	01/28/12 16:34	SO	M1.3	X	1
07	JM-77-31-120128	01/28/12 16:55	SO	M1.3	X	1
08	JM-65-31-120128	01/28/12 17:02	SO	M1.3	X	1
09	JM-66-31-120128	01/28/12 17:05	SO	M1.3	X	1
10	JM-73-31-120128	01/28/12 16:57	SO	M1.3	X	1
11	JM-55-31-120128	01/28/12 17:10	SO	M1.3	X	1
12	JM-82-31-120128	01/28/12 16:45	SO	M1.3	X	1
13	JM-84-31-120128	01/28/12 16:38	SO	M1.3	X	1
14	JM-54-31-120128	01/28/12 17:12	SO	M1.3	X	1
15	JMBKGD-NW-31-120128	01/28/12 09:10	SO	M1.3	X	1
16	JMBKGD-NE-31-120128	01/28/12 09:41	SO	M1.3	X	1
						0
						0
						0
						0

Totals Per Analysis (non QA samples): 13 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

EBERLINE SERVICES

Sample Log In Report

Oak Ridge Laboratory
601 Scarboro Rd.
Oak Ridge, TN 37830

Voice: (865) 481-0683
Fax: (865) 483-4621

Invoice	ACCOUNTS PAYABLE Weston Solutions, Inc. 5599 San Felipe Suite 700 Houston, TX 77056	**Report Data**	Kristie Warr Weston Solutions, Inc. 5599 San Felipe Suite 700 Houston, TX 77056
Voice	713-985-6686	Voice	713-985-6636
Fax	713-985-6703	Fax	713-985-6703
Contact	Kristie Warr		
Voice	713-985-6636		
Fax	713-985-6703		

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Eberline Services – Oak Ridge Laboratory

SAMPLE RECEIPT CHECKLIST
MP-001-2

WORK ORDER # 12-01163

SAMPLE MATRIX/MATRICES: (CIRCLE ONE OR BOTH)

AQUEOUS NON-AQUEOUS

(CIRCLE EITHER YES, NO, OR N/A)

WERE SAMPLES:

Received in good condition?	Y	N	
If aqueous, properly preserved	Y	N	N/A

WERE CHAIN OF CUSTODY SEALS:

Present on outside of package?	Y	N
Unbroken on outside of package?	Y	N
Present on samples?	Y	N
Unbroken on samples?	Y	N
Was chain of custody present upon sample receipt?	Y	N

IF THE RESPONSE TO ANY OF THE ABOVE IS **NO**, A DISCREPANT SAMPLE RECEIPT REPORT (DSR) HAS BEEN ISSUED.

REMARKS: (13) 500mL Jars of Soil

SIGNATURE: Justin McK[illegible] DATE: 1·31·12

SECTION III

CASE NARRATIVE

EBERLINE SERVICES

EBERLINE ANALYTICAL CORPORATION
601 SCARBORO ROAD
OAK RIDGE, TENNESSEE 37830
PHONE (865) 481-0683
FAX (865) 483-4621

EBS-OR-33523

March 7, 2012

Kristie Warr
Weston Solutions, Inc.
5599 San Felipe Suite 700
Houston, TX 77056

CASE NARRATIVE
Work Order # 12-01163-OR

SAMPLE RECEIPT

This work order contains thirteen soil samples received 01/31/2012. These samples were analyzed by Gamma Spectroscopy.

CLIENT ID	LAB ID	CLIENT ID	LAB ID
JM-70-32-120128	12-01163-04	JM-55-31-120128	12-01163-11
JM-70-31-120128	12-01163-05	JM-82-31-120128	12-01163-12
JM-88-31-120128	12-01163-06	JM-84-31-120128	12-01163-13
JM-77-31-120128	12-01163-07	JM-54-31-120128	12-01163-14
JM-65-31-120128	12-01163-08	JMBKGD-NW-31-120128	12-01163-15
JM-66-31-120128	12-01163-09	JMBKGD-NE-31-120128	12-01163-16
JM-73-31-120128	12-01163-10		

ANALYTICAL METHODS

Gamma Spectroscopy was performed using Method LANL ER-130 Modified.

ANALYTICAL RESULTS

Combined Standard Uncertainty is reported at 2-sigma value.

GAMMA SPECTROSCOPY

Samples were dried, homogenized and placed into appropriate gamma spectroscopy geometry containers. Samples were then sealed for 21 days to allow for ingrowth of Radon-222 and progeny. Samples were counted on High Purity Germanium (HPGe) gamma ray detectors. Energy lines from Lead-214 and Bismuth-214 were analyzed for determinations of Radium-226 activity.

Samples demonstrated acceptable results for all gamma-emitting radionuclides as reported. Due to the positive nature of several samples, significant Compton was noted which caused slightly high method detection limits. The method blank demonstrated acceptable results for all radionuclides as reported. Results for the Bismuth-214, Potassium-40 and Lead-214 replicate demonstrated an acceptable relative percent difference and normalized difference. Results for the Cobalt-60 and Cesium-137 laboratory control sample demonstrated an acceptable percent recovery.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.

M.R. McDougall
Laboratory Manager

Date: 3/7/2012

SECTION IV

ANALYTICAL RESULTS SUMMARY

Eberline Analytical
Final Report of Analysis

Report To:		Work Order Details:	
Kristie Warr		SDG:	12-01163
Weston Solutions, Inc.		Purchase Order:	0070138
5599 San Felipe Suite 700		Analysis Category:	ENVIRONMENTAL
Houston, TX 77056		Sample Matrix:	SO

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
12-01163-01	LCS	KNOWN	01/31/12 00:00	1/31/2012	2/22/2012	12-01163	Cobalt-60	LANL ER-130 Modified	1.32E+02	5.20E+00			pCi/g
12-01163-01	LCS	KNOWN	01/31/12 00:00	1/31/2012	2/22/2012	12-01163	Cesium-137	LANL ER-130 Modified	8.25E+01	3.30E+00			pCi/g
12-01163-01	LCS	SPIKE	01/31/12 00:00	1/31/2012	2/22/2012	12-01163	Cobalt-60	LANL ER-130 Modified	1.25E+02	8.13E+00	1.04E+01	5.68E-01	pCi/g
12-01163-01	LCS	SPIKE	01/31/12 00:00	1/31/2012	2/22/2012	12-01163	Cesium-137	LANL ER-130 Modified	7.92E+01	8.12E+00	9.08E+00	4.84E-01	pCi/g
12-01163-02	MBL	BLANK	01/31/12 00:00	1/31/2012	2/22/2012	12-01163	Actinium-228	LANL ER-130 Modified	3.46E-04	5.98E-02	5.98E-02	1.15E-01	pCi/g
12-01163-02	MBL	BLANK	01/31/12 00:00	1/31/2012	2/22/2012	12-01163	Bismuth-214	LANL ER-130 Modified	-1.81E-02	3.68E-02	3.68E-02	6.28E-02	pCi/g
12-01163-02	MBL	BLANK	01/31/12 00:00	1/31/2012	2/22/2012	12-01163	Potassium-40	LANL ER-130 Modified	5.84E-02	1.86E-01	1.86E-01	4.21E-01	pCi/g
12-01163-02	MBL	BLANK	01/31/12 00:00	1/31/2012	2/22/2012	12-01163	Protactinium-234m	LANL ER-130 Modified	-2.41E-03	2.26E+00	2.26E+00	3.82E+00	pCi/g
12-01163-02	MBL	BLANK	01/31/12 00:00	1/31/2012	2/22/2012	12-01163	Lead-212	LANL ER-130 Modified	3.99E-03	3.30E-02	3.30E-02	6.01E-02	pCi/g
12-01163-02	MBL	BLANK	01/31/12 00:00	1/31/2012	2/22/2012	12-01163	Lead-214	LANL ER-130 Modified	7.72E-03	3.75E-02	3.75E-02	6.56E-02	pCi/g
12-01163-02	MBL	BLANK	01/31/12 00:00	1/31/2012	2/22/2012	12-01163	Radium-226	LANL ER-130 Modified	-1.81E-02	3.68E-02	3.68E-02	6.28E-02	pCi/g
12-01163-02	MBL	BLANK	01/31/12 00:00	1/31/2012	2/22/2012	12-01163	Thorium-234	LANL ER-130 Modified	4.80E-01	3.76E-01	3.77E-01	4.25E-01	pCi/g
12-01163-02	MBL	BLANK	01/31/12 00:00	1/31/2012	2/22/2012	12-01163	Thallium-208	LANL ER-130 Modified	4.81E-02	4.15E-02	4.16E-02	8.87E-02	pCi/g
12-01163-03	DUP	JM-70-32-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Actinium-228	LANL ER-130 Modified	3.67E-01	7.13E-01	7.14E-01	1.20E+00	pCi/g
12-01163-03	DUP	JM-70-32-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Bismuth-214	LANL ER-130 Modified	1.55E+02	7.64E+00	1.10E+01	5.59E-01	pCi/g
12-01163-03	DUP	JM-70-32-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Potassium-40	LANL ER-130 Modified	2.27E+01	3.91E+00	4.08E+00	3.05E+00	pCi/g
12-01163-03	DUP	JM-70-32-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Protactinium-234m	LANL ER-130 Modified	1.20E+02	3.72E+01	3.77E+01	3.37E+01	pCi/g
12-01163-03	DUP	JM-70-32-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Lead-212	LANL ER-130 Modified	3.49E+00	5.27E-01	5.56E-01	7.06E-01	pCi/g
12-01163-03	DUP	JM-70-32-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Lead-214	LANL ER-130 Modified	1.55E+02	1.01E+01	1.29E+01	7.15E-01	pCi/g
12-01163-03	DUP	JM-70-32-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Radium-226	LANL ER-130 Modified	1.55E+02	7.64E+00	1.10E+01	5.59E-01	pCi/g
12-01163-03	DUP	JM-70-32-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Thorium-234	LANL ER-130 Modified	8.94E+01	9.84E+00	1.09E+01	8.36E+00	pCi/g
12-01163-03	DUP	JM-70-32-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Thallium-208	LANL ER-130 Modified	1.11E+00	6.14E-01	6.17E-01	9.53E-01	pCi/g
12-01163-03	DUP	JM-70-32-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Uranium-235	LANL ER-130 Modified	8.18E+00	3.28E+00	3.31E+00	2.75E+00	pCi/g
12-01163-04	DO	JM-70-32-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Actinium-228	LANL ER-130 Modified	4.72E-01	7.84E-01	7.84E-01	1.19E+00	pCi/g
12-01163-04	DO	JM-70-32-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Bismuth-214	LANL ER-130 Modified	1.57E+02	7.71E+00	1.11E+01	5.69E-01	pCi/g
12-01163-04	DO	JM-70-32-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Potassium-40	LANL ER-130 Modified	2.27E+01	4.11E+00	4.27E+00	3.08E+00	pCi/g
12-01163-04	DO	JM-70-32-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Protactinium-234m	LANL ER-130 Modified	1.49E+02	4.24E+01	4.31E+01	3.31E+01	pCi/g
12-01163-04	DO	JM-70-32-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Lead-212	LANL ER-130 Modified	9.33E-01	4.56E-01	4.59E-01	6.26E-01	pCi/g
12-01163-04	DO	JM-70-32-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Lead-214	LANL ER-130 Modified	1.55E+02	1.01E+01	1.28E+01	7.23E-01	pCi/g
12-01163-04	DO	JM-70-32-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Radium-226	LANL ER-130 Modified	1.57E+02	7.71E+00	1.11E+01	5.69E-01	pCi/g
12-01163-04	DO	JM-70-32-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Thorium-234	LANL ER-130 Modified	9.28E+01	1.01E+01	1.11E+01	8.49E+00	pCi/g
12-01163-04	DO	JM-70-32-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Thallium-208	LANL ER-130 Modified	6.88E-01	1.91E-01	1.94E-01	8.63E-01	pCi/g
12-01163-04	DO	JM-70-32-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Uranium-235	LANL ER-130 Modified	6.98E+00	3.05E+00	3.07E+00	2.73E+00	pCi/g

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original

EBERLINE SERVICES

EBERLINE ANALYTICAL CORPORATION

601 SCARBORO ROAD OAK RIDGE, TN 37830 865/481-0683 FAX 865/483-4621

Eberline Analytical
Final Report of Analysis

Report To:	
Kristie Warr	
Weston Solutions, Inc.	
5599 San Felipe Suite 700	
Houston, TX 77056	

Work Order Details:	
SDG:	12-01163
Purchase Order:	0070138
Analysis Category:	ENVIRONMENTAL
Sample Matrix:	SO

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
12-01163-05	TRG	JM-70-31-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Actinium-228	LANL ER-130 Modified	1.14E+00	1.12E+00	1.12E+00	1.34E+00	pCi/g
12-01163-05	TRG	JM-70-31-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Bismuth-214	LANL ER-130 Modified	1.38E+02	7.54E+00	1.03E+01	5.81E-01	pCi/g
12-01163-05	TRG	JM-70-31-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Potassium-40	LANL ER-130 Modified	2.09E+01	4.27E+00	4.40E+00	3.52E+00	pCi/g
12-01163-05	TRG	JM-70-31-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Protactinium-234m	LANL ER-130 Modified	1.17E+02	4.22E+01	4.26E+01	3.70E+01	pCi/g
12-01163-05	TRG	JM-70-31-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Lead-212	LANL ER-130 Modified	2.22E+00	8.06E-01	8.14E-01	6.45E-01	pCi/g
12-01163-05	TRG	JM-70-31-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Lead-214	LANL ER-130 Modified	1.38E+02	3.21E+01	3.29E+01	7.15E-01	pCi/g
12-01163-05	TRG	JM-70-31-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Radium-226	LANL ER-130 Modified	1.38E+02	7.54E+00	1.03E+01	5.81E-01	pCi/g
12-01163-05	TRG	JM-70-31-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Thorium-234	LANL ER-130 Modified	9.44E+01	1.06E+01	1.17E+01	7.57E+00	pCi/g
12-01163-05	TRG	JM-70-31-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Thallium-208	LANL ER-130 Modified	7.69E-01	6.05E-01	6.06E-01	9.59E-01	pCi/g
12-01163-05	TRG	JM-70-31-120128	01/28/12 17:00	1/31/2012	2/22/2012	12-01163	Uranium-235	LANL ER-130 Modified	8.98E+00	2.43E+00	2.47E+00	2.50E+00	pCi/g
12-01163-06	TRG	JM-88-31-120128	01/28/12 16:34	1/31/2012	2/22/2012	12-01163	Actinium-228	LANL ER-130 Modified	-5.56E-01	1.11E+00	1.11E+00	1.82E+00	pCi/g
12-01163-06	TRG	JM-88-31-120128	01/28/12 16:34	1/31/2012	2/22/2012	12-01163	Bismuth-214	LANL ER-130 Modified	2.34E+02	1.23E+01	1.72E+01	8.57E-01	pCi/g
12-01163-06	TRG	JM-88-31-120128	01/28/12 16:34	1/31/2012	2/22/2012	12-01163	Potassium-40	LANL ER-130 Modified	2.72E+01	6.59E+00	6.74E+00	4.75E+00	pCi/g
12-01163-06	TRG	JM-88-31-120128	01/28/12 16:34	1/31/2012	2/22/2012	12-01163	Protactinium-234m	LANL ER-130 Modified	2.07E+02	5.35E+01	5.45E+01	5.20E+01	pCi/g
12-01163-06	TRG	JM-88-31-120128	01/28/12 16:34	1/31/2012	2/22/2012	12-01163	Lead-212	LANL ER-130 Modified	5.67E+00	7.78E-01	8.30E-01	1.00E+00	pCi/g
12-01163-06	TRG	JM-88-31-120128	01/28/12 16:34	1/31/2012	2/22/2012	12-01163	Lead-214	LANL ER-130 Modified	2.42E+02	1.62E+01	2.04E+01	1.05E+00	pCi/g
12-01163-06	TRG	JM-88-31-120128	01/28/12 16:34	1/31/2012	2/22/2012	12-01163	Radium-226	LANL ER-130 Modified	2.34E+02	1.23E+01	1.72E+01	8.57E-01	pCi/g
12-01163-06	TRG	JM-88-31-120128	01/28/12 16:34	1/31/2012	2/22/2012	12-01163	Thorium-234	LANL ER-130 Modified	1.93E+02	2.02E+01	2.25E+01	1.17E+01	pCi/g
12-01163-06	TRG	JM-88-31-120128	01/28/12 16:34	1/31/2012	2/22/2012	12-01163	Thallium-208	LANL ER-130 Modified	1.75E+00	8.96E-01	9.01E-01	1.40E+00	pCi/g
12-01163-06	TRG	JM-88-31-120128	01/28/12 16:34	1/31/2012	2/22/2012	12-01163	Uranium-235	LANL ER-130 Modified	1.46E+01	3.24E+00	3.33E+00	3.74E+00	pCi/g
12-01163-07	TRG	JM-77-31-120128	01/28/12 16:55	1/31/2012	2/22/2012	12-01163	Actinium-228	LANL ER-130 Modified	1.37E+00	6.91E-01	6.94E-01	1.11E+00	pCi/g
12-01163-07	TRG	JM-77-31-120128	01/28/12 16:55	1/31/2012	2/22/2012	12-01163	Bismuth-214	LANL ER-130 Modified	8.38E+01	4.74E+00	6.40E+00	5.29E-01	pCi/g
12-01163-07	TRG	JM-77-31-120128	01/28/12 16:55	1/31/2012	2/22/2012	12-01163	Potassium-40	LANL ER-130 Modified	2.33E+01	4.44E+00	4.60E+00	2.80E+00	pCi/g
12-01163-07	TRG	JM-77-31-120128	01/28/12 16:55	1/31/2012	2/22/2012	12-01163	Protactinium-234m	LANL ER-130 Modified	1.34E+02	3.41E+01	3.48E+01	3.22E+01	pCi/g
12-01163-07	TRG	JM-77-31-120128	01/28/12 16:55	1/31/2012	2/22/2012	12-01163	Lead-212	LANL ER-130 Modified	1.80E+00	6.85E-01	6.91E-01	4.94E-01	pCi/g
12-01163-07	TRG	JM-77-31-120128	01/28/12 16:55	1/31/2012	2/22/2012	12-01163	Lead-214	LANL ER-130 Modified	8.46E+01	1.97E+01	2.02E+01	5.96E-01	pCi/g
12-01163-07	TRG	JM-77-31-120128	01/28/12 16:55	1/31/2012	2/22/2012	12-01163	Radium-226	LANL ER-130 Modified	8.38E+01	4.74E+00	6.40E+00	5.29E-01	pCi/g
12-01163-07	TRG	JM-77-31-120128	01/28/12 16:55	1/31/2012	2/22/2012	12-01163	Thorium-234	LANL ER-130 Modified	1.13E+02	1.14E+01	1.28E+01	6.78E+00	pCi/g
12-01163-07	TRG	JM-77-31-120128	01/28/12 16:55	1/31/2012	2/22/2012	12-01163	Thallium-208	LANL ER-130 Modified	1.15E+00	2.94E-01	3.00E-01	7.90E-01	pCi/g
12-01163-07	TRG	JM-77-31-120128	01/28/12 16:55	1/31/2012	2/22/2012	12-01163	Uranium-235	LANL ER-130 Modified	6.95E+00	1.74E+00	1.78E+00	2.09E+00	pCi/g

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original

Eberline Analytical
Final Report of Analysis

Report To:	
Kristie Warr	
Weston Solutions, Inc.	
5599 San Felipe Suite 700	
Houston, TX 77056	

Work Order Details:	
SDG:	12-01163
Purchase Order:	0070138
Analysis Category:	ENVIRONMENTAL
Sample Matrix:	SO

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
12-01163-08	TRG	JM-65-31-120128	01/28/12 17:02	1/31/2012	2/22/2012	12-01163	Actinium-228	LANL ER-130 Modified	2.75E-01	1.25E+00	1.25E+00	2.07E+00	pCi/g
12-01163-08	TRG	JM-65-31-120128	01/28/12 17:02	1/31/2012	2/22/2012	12-01163	Bismuth-214	LANL ER-130 Modified	3.17E+02	1.65E+01	2.31E+01	9.80E-01	pCi/g
12-01163-08	TRG	JM-65-31-120128	01/28/12 17:02	1/31/2012	2/22/2012	12-01163	Potassium-40	LANL ER-130 Modified	2.90E+01	6.68E+00	6.84E+00	5.26E+00	pCi/g
12-01163-08	TRG	JM-65-31-120128	01/28/12 17:02	1/31/2012	2/22/2012	12-01163	Protactinium-234m	LANL ER-130 Modified	2.51E+02	5.67E+01	5.82E+01	5.81E+01	pCi/g
12-01163-08	TRG	JM-65-31-120128	01/28/12 17:02	1/31/2012	2/22/2012	12-01163	Lead-212	LANL ER-130 Modified	6.44E+00	8.86E-01	9.46E-01	1.13E+00	pCi/g
12-01163-08	TRG	JM-65-31-120128	01/28/12 17:02	1/31/2012	2/22/2012	12-01163	Lead-214	LANL ER-130 Modified	3.32E+02	2.23E+01	2.80E+01	1.17E+00	pCi/g
12-01163-08	TRG	JM-65-31-120128	01/28/12 17:02	1/31/2012	2/22/2012	12-01163	Radium-226	LANL ER-130 Modified	3.17E+02	1.65E+01	2.31E+01	9.80E-01	pCi/g
12-01163-08	TRG	JM-65-31-120128	01/28/12 17:02	1/31/2012	2/22/2012	12-01163	Thorium-234	LANL ER-130 Modified	2.13E+02	2.25E+01	2.50E+01	1.35E+01	pCi/g
12-01163-08	TRG	JM-65-31-120128	01/28/12 17:02	1/31/2012	2/22/2012	12-01163	Thallium-208	LANL ER-130 Modified	9.98E-01	9.84E-01	9.86E-01	1.52E+00	pCi/g
12-01163-08	TRG	JM-65-31-120128	01/28/12 17:02	1/31/2012	2/22/2012	12-01163	Uranium-235	LANL ER-130 Modified	1.42E+01	3.63E+00	3.70E+00	4.27E+00	pCi/g
12-01163-09	TRG	JM-66-31-120128	01/28/12 17:05	1/31/2012	2/22/2012	12-01163	Actinium-228	LANL ER-130 Modified	6.54E-01	6.00E-01	6.01E-01	1.02E+00	pCi/g
12-01163-09	TRG	JM-66-31-120128	01/28/12 17:05	1/31/2012	2/22/2012	12-01163	Bismuth-214	LANL ER-130 Modified	1.12E+02	5.62E+00	8.05E+00	4.75E-01	pCi/g
12-01163-09	TRG	JM-66-31-120128	01/28/12 17:05	1/31/2012	2/22/2012	12-01163	Potassium-40	LANL ER-130 Modified	1.96E+01	3.56E+00	3.70E+00	2.55E+00	pCi/g
12-01163-09	TRG	JM-66-31-120128	01/28/12 17:05	1/31/2012	2/22/2012	12-01163	Protactinium-234m	LANL ER-130 Modified	3.84E+01	2.71E+01	2.72E+01	2.88E+01	pCi/g
12-01163-09	TRG	JM-66-31-120128	01/28/12 17:05	1/31/2012	2/22/2012	12-01163	Lead-212	LANL ER-130 Modified	1.03E+00	3.83E-01	3.87E-01	5.14E-01	pCi/g
12-01163-09	TRG	JM-66-31-120128	01/28/12 17:05	1/31/2012	2/22/2012	12-01163	Lead-214	LANL ER-130 Modified	1.12E+02	7.30E+00	9.30E+00	5.97E-01	pCi/g
12-01163-09	TRG	JM-66-31-120128	01/28/12 17:05	1/31/2012	2/22/2012	12-01163	Radium-226	LANL ER-130 Modified	1.12E+02	5.62E+00	8.05E+00	4.75E-01	pCi/g
12-01163-09	TRG	JM-66-31-120128	01/28/12 17:05	1/31/2012	2/22/2012	12-01163	Thorium-234	LANL ER-130 Modified	2.58E+01	6.10E+00	6.24E+00	6.80E+00	pCi/g
12-01163-09	TRG	JM-66-31-120128	01/28/12 17:05	1/31/2012	2/22/2012	12-01163	Thallium-208	LANL ER-130 Modified	1.39E+00	5.16E-01	5.21E-01	8.07E-01	pCi/g
12-01163-09	TRG	JM-66-31-120128	01/28/12 17:05	1/31/2012	2/22/2012	12-01163	Uranium-235	LANL ER-130 Modified	4.69E+00	1.95E+00	1.97E+00	2.33E+00	pCi/g
12-01163-10	TRG	JM-73-31-120128	01/28/12 16:57	1/31/2012	2/22/2012	12-01163	Actinium-228	LANL ER-130 Modified	1.71E+00	1.37E+00	1.37E+00	1.49E+00	pCi/g
12-01163-10	TRG	JM-73-31-120128	01/28/12 16:57	1/31/2012	2/22/2012	12-01163	Bismuth-214	LANL ER-130 Modified	1.46E+02	8.01E+00	1.10E+01	6.63E-01	pCi/g
12-01163-10	TRG	JM-73-31-120128	01/28/12 16:57	1/31/2012	2/22/2012	12-01163	Potassium-40	LANL ER-130 Modified	1.93E+01	4.61E+00	4.72E+00	3.93E+00	pCi/g
12-01163-10	TRG	JM-73-31-120128	01/28/12 16:57	1/31/2012	2/22/2012	12-01163	Protactinium-234m	LANL ER-130 Modified	1.03E+02	4.57E+01	4.60E+01	4.16E+01	pCi/g
12-01163-10	TRG	JM-73-31-120128	01/28/12 16:57	1/31/2012	2/22/2012	12-01163	Lead-212	LANL ER-130 Modified	1.80E+00	7.11E-01	7.17E-01	7.01E-01	pCi/g
12-01163-10	TRG	JM-73-31-120128	01/28/12 16:57	1/31/2012	2/22/2012	12-01163	Lead-214	LANL ER-130 Modified	1.46E+02	3.41E+01	3.49E+01	7.92E-01	pCi/g
12-01163-10	TRG	JM-73-31-120128	01/28/12 16:57	1/31/2012	2/22/2012	12-01163	Radium-226	LANL ER-130 Modified	1.46E+02	8.01E+00	1.10E+01	6.63E-01	pCi/g
12-01163-10	TRG	JM-73-31-120128	01/28/12 16:57	1/31/2012	2/22/2012	12-01163	Thorium-234	LANL ER-130 Modified	5.70E+01	7.96E+00	8.48E+00	7.99E+00	pCi/g
12-01163-10	TRG	JM-73-31-120128	01/28/12 16:57	1/31/2012	2/22/2012	12-01163	Thallium-208	LANL ER-130 Modified	1.14E+00	6.70E-01	6.72E-01	1.07E+00	pCi/g
12-01163-10	TRG	JM-73-31-120128	01/28/12 16:57	1/31/2012	2/22/2012	12-01163	Uranium-235	LANL ER-130 Modified	6.40E+00	4.52E+00	4.53E+00	2.69E+00	pCi/g

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original

EBERLINE SERVICES

EBERLINE ANALYTICAL CORPORATION
601 SCARBORO ROAD OAK RIDGE, TN 37830 865/481-0683 FAX 865/483-4621

Eberline Analytical
Final Report of Analysis

Report To:	Work Order Details:	
Kristie Warr	SDG:	12-01163
Weston Solutions, Inc.	Purchase Order:	0070138
5599 San Felipe Suite 700	Analysis Category:	ENVIRONMENTAL
Houston, TX 77056	Sample Matrix:	SO

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
12-01163-11	TRG	JM-55-31-120128	01/28/12 17:10	1/31/2012	2/22/2012	12-01163	Actinium-228	LANL ER-130 Modified	1.41E+00	1.16E+00	1.16E+00	1.47E+00	pCi/g
12-01163-11	TRG	JM-55-31-120128	01/28/12 17:10	1/31/2012	2/22/2012	12-01163	Bismuth-214	LANL ER-130 Modified	1.27E+02	7.90E+00	1.02E+01	6.44E-01	pCi/g
12-01163-11	TRG	JM-55-31-120128	01/28/12 17:10	1/31/2012	2/22/2012	12-01163	Potassium-40	LANL ER-130 Modified	2.36E+01	4.01E+00	4.19E+00	3.54E+00	pCi/g
12-01163-11	TRG	JM-55-31-120128	01/28/12 17:10	1/31/2012	2/22/2012	12-01163	Protactinium-234m	LANL ER-130 Modified	8.56E+01	3.73E+01	3.75E+01	3.93E+01	pCi/g
12-01163-11	TRG	JM-55-31-120128	01/28/12 17:10	1/31/2012	2/22/2012	12-01163	Lead-212	LANL ER-130 Modified	9.16E-01	4.88E-01	4.90E-01	6.40E-01	pCi/g
12-01163-11	TRG	JM-55-31-120128	01/28/12 17:10	1/31/2012	2/22/2012	12-01163	Lead-214	LANL ER-130 Modified	1.36E+02	9.16E+00	1.15E+01	7.99E-01	pCi/g
12-01163-11	TRG	JM-55-31-120128	01/28/12 17:10	1/31/2012	2/22/2012	12-01163	Radium-226	LANL ER-130 Modified	1.27E+02	7.90E+00	1.02E+01	6.44E-01	pCi/g
12-01163-11	TRG	JM-55-31-120128	01/28/12 17:10	1/31/2012	2/22/2012	12-01163	Thorium-234	LANL ER-130 Modified	8.57E+01	1.12E+01	1.20E+01	8.60E+00	pCi/g
12-01163-11	TRG	JM-55-31-120128	01/28/12 17:10	1/31/2012	2/22/2012	12-01163	Thallium-208	LANL ER-130 Modified	6.27E-01	2.40E-01	2.42E-01	9.57E-01	pCi/g
12-01163-11	TRG	JM-55-31-120128	01/28/12 17:10	1/31/2012	2/22/2012	12-01163	Uranium-235	LANL ER-130 Modified	4.26E+00	3.08E+00	3.09E+00	2.79E+00	pCi/g
12-01163-12	TRG	JM-82-31-120128	01/28/12 16:45	1/31/2012	2/22/2012	12-01163	Actinium-228	LANL ER-130 Modified	1.08E+00	1.59E+00	1.59E+00	2.77E+00	pCi/g
12-01163-12	TRG	JM-82-31-120128	01/28/12 16:45	1/31/2012	2/22/2012	12-01163	Bismuth-214	LANL ER-130 Modified	1.20E+02	7.43E+00	9.66E+00	1.23E+00	pCi/g
12-01163-12	TRG	JM-82-31-120128	01/28/12 16:45	1/31/2012	2/22/2012	12-01163	Potassium-40	LANL ER-130 Modified	2.33E+01	7.81E+00	7.90E+00	7.18E+00	pCi/g
12-01163-12	TRG	JM-82-31-120128	01/28/12 16:45	1/31/2012	2/22/2012	12-01163	Protactinium-234m	LANL ER-130 Modified	6.98E+01	6.85E+01	6.86E+01	7.53E+01	pCi/g
12-01163-12	TRG	JM-82-31-120128	01/28/12 16:45	1/31/2012	2/22/2012	12-01163	Lead-212	LANL ER-130 Modified	1.04E+01	1.32E+00	1.42E+00	1.47E+00	pCi/g
12-01163-12	TRG	JM-82-31-120128	01/28/12 16:45	1/31/2012	2/22/2012	12-01163	Lead-214	LANL ER-130 Modified	1.21E+02	9.97E+00	1.17E+01	1.42E+00	pCi/g
12-01163-12	TRG	JM-82-31-120128	01/28/12 16:45	1/31/2012	2/22/2012	12-01163	Radium-226	LANL ER-130 Modified	1.20E+02	7.43E+00	9.66E+00	1.23E+00	pCi/g
12-01163-12	TRG	JM-82-31-120128	01/28/12 16:45	1/31/2012	2/22/2012	12-01163	Thorium-234	LANL ER-130 Modified	3.65E+01	1.04E+01	1.05E+01	1.34E+01	pCi/g
12-01163-12	TRG	JM-82-31-120128	01/28/12 16:45	1/31/2012	2/22/2012	12-01163	Thallium-208	LANL ER-130 Modified	1.98E+00	1.37E+00	1.37E+00	2.03E+00	pCi/g
12-01163-12	TRG	JM-82-31-120128	01/28/12 16:45	1/31/2012	2/22/2012	12-01163	Uranium-235	LANL ER-130 Modified	5.06E+00	3.16E+00	3.17E+00	4.66E+00	pCi/g
12-01163-13	TRG	JM-84-31-120128	01/28/12 16:38	1/31/2012	2/22/2012	12-01163	Actinium-228	LANL ER-130 Modified	1.63E+00	3.62E-01	3.72E-01	4.40E-01	pCi/g
12-01163-13	TRG	JM-84-31-120128	01/28/12 16:38	1/31/2012	2/22/2012	12-01163	Bismuth-214	LANL ER-130 Modified	1.30E+01	8.59E-01	1.09E+00	2.21E-01	pCi/g
12-01163-13	TRG	JM-84-31-120128	01/28/12 16:38	1/31/2012	2/22/2012	12-01163	Potassium-40	LANL ER-130 Modified	2.02E+01	2.70E+00	2.89E+00	1.11E+00	pCi/g
12-01163-13	TRG	JM-84-31-120128	01/28/12 16:38	1/31/2012	2/22/2012	12-01163	Protactinium-234m	LANL ER-130 Modified	1.98E+01	1.33E+01	1.34E+01	1.42E+01	pCi/g
12-01163-13	TRG	JM-84-31-120128	01/28/12 16:38	1/31/2012	2/22/2012	12-01163	Lead-212	LANL ER-130 Modified	1.80E+00	2.51E-01	2.67E-01	2.24E-01	pCi/g
12-01163-13	TRG	JM-84-31-120128	01/28/12 16:38	1/31/2012	2/22/2012	12-01163	Lead-214	LANL ER-130 Modified	1.34E+01	9.56E-01	1.18E+00	2.75E-01	pCi/g
12-01163-13	TRG	JM-84-31-120128	01/28/12 16:38	1/31/2012	2/22/2012	12-01163	Radium-226	LANL ER-130 Modified	1.30E+01	8.59E-01	1.09E+00	2.21E-01	pCi/g
12-01163-13	TRG	JM-84-31-120128	01/28/12 16:38	1/31/2012	2/22/2012	12-01163	Thorium-234	LANL ER-130 Modified	1.23E+01	2.54E+00	2.61E+00	3.04E+00	pCi/g
12-01163-13	TRG	JM-84-31-120128	01/28/12 16:38	1/31/2012	2/22/2012	12-01163	Thallium-208	LANL ER-130 Modified	1.46E+00	2.71E-01	2.81E-01	3.59E-01	pCi/g
12-01163-13	TRG	JM-84-31-120128	01/28/12 16:38	1/31/2012	2/22/2012	12-01163	Uranium-235	LANL ER-130 Modified	7.63E-01	6.77E-01	6.78E-01	1.03E+00	pCi/g

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original

Eberline Analytical
Final Report of Analysis

Report To:	Work Order Details:	
Kristie Warr	SDG:	12-01163
Weston Solutions, Inc.	Purchase Order:	0070138
5599 San Felipe Suite 700	Analysis Category:	ENVIRONMENTAL
Houston, TX 77056	Sample Matrix:	SO

Lab ID	Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	Report Units
12-01163-14	TRG	JM-54-31-120128	01/28/12 17:12	1/31/2012	2/22/2012	12-01163	Actinium-228	LANL ER-130 Modified	1.37E+00	1.27E+00	1.27E+00	1.72E+00	pCi/g
12-01163-14	TRG	JM-54-31-120128	01/28/12 17:12	1/31/2012	2/22/2012	12-01163	Bismuth-214	LANL ER-130 Modified	1.36E+02	7.63E+00	1.03E+01	7.47E-01	pCi/g
12-01163-14	TRG	JM-54-31-120128	01/28/12 17:12	1/31/2012	2/22/2012	12-01163	Potassium-40	LANL ER-130 Modified	2.53E+01	5.97E+00	6.11E+00	4.34E+00	pCi/g
12-01163-14	TRG	JM-54-31-120128	01/28/12 17:12	1/31/2012	2/22/2012	12-01163	Protactinium-234m	LANL ER-130 Modified	3.59E+01	2.93E+01	2.93E+01	5.08E+01	pCi/g
12-01163-14	TRG	JM-54-31-120128	01/28/12 17:12	1/31/2012	2/22/2012	12-01163	Lead-212	LANL ER-130 Modified	1.23E+00	6.42E-01	6.45E-01	6.86E-01	pCi/g
12-01163-14	TRG	JM-54-31-120128	01/28/12 17:12	1/31/2012	2/22/2012	12-01163	Lead-214	LANL ER-130 Modified	1.39E+02	3.24E+01	3.31E+01	8.70E-01	pCi/g
12-01163-14	TRG	JM-54-31-120128	01/28/12 17:12	1/31/2012	2/22/2012	12-01163	Radium-226	LANL ER-130 Modified	1.36E+02	7.63E+00	1.03E+01	7.47E-01	pCi/g
12-01163-14	TRG	JM-54-31-120128	01/28/12 17:12	1/31/2012	2/22/2012	12-01163	Thorium-234	LANL ER-130 Modified	2.35E+01	7.93E+00	8.02E+00	8.47E+00	pCi/g
12-01163-14	TRG	JM-54-31-120128	01/28/12 17:12	1/31/2012	2/22/2012	12-01163	Thallium-208	LANL ER-130 Modified	5.92E-01	7.09E-01	7.10E-01	1.25E+00	pCi/g
12-01163-14	TRG	JM-54-31-120128	01/28/12 17:12	1/31/2012	2/22/2012	12-01163	Uranium-235	LANL ER-130 Modified	4.53E+00	2.50E+00	2.51E+00	2.97E+00	pCi/g
12-01163-15	TRG	JMBKGD-NW-31-120128	01/28/12 09:10	1/31/2012	2/22/2012	12-01163	Actinium-228	LANL ER-130 Modified	1.67E+00	3.53E-01	3.63E-01	3.90E-01	pCi/g
12-01163-15	TRG	JMBKGD-NW-31-120128	01/28/12 09:10	1/31/2012	2/22/2012	12-01163	Bismuth-214	LANL ER-130 Modified	2.74E+00	3.31E-01	3.59E-01	2.19E-01	pCi/g
12-01163-15	TRG	JMBKGD-NW-31-120128	01/28/12 09:10	1/31/2012	2/22/2012	12-01163	Potassium-40	LANL ER-130 Modified	2.77E+01	3.83E+00	4.09E+00	8.89E-01	pCi/g
12-01163-15	TRG	JMBKGD-NW-31-120128	01/28/12 09:10	1/31/2012	2/22/2012	12-01163	Protactinium-234m	LANL ER-130 Modified	5.25E+00	7.92E+00	7.92E+00	1.48E+01	pCi/g
12-01163-15	TRG	JMBKGD-NW-31-120128	01/28/12 09:10	1/31/2012	2/22/2012	12-01163	Lead-212	LANL ER-130 Modified	2.11E+00	2.68E-01	2.89E-01	4.00E-01	pCi/g
12-01163-15	TRG	JMBKGD-NW-31-120128	01/28/12 09:10	1/31/2012	2/22/2012	12-01163	Lead-214	LANL ER-130 Modified	2.93E+00	2.95E-01	3.31E-01	2.17E-01	pCi/g
12-01163-15	TRG	JMBKGD-NW-31-120128	01/28/12 09:10	1/31/2012	2/22/2012	12-01163	Radium-226	LANL ER-130 Modified	2.74E+00	3.31E-01	3.59E-01	2.19E-01	pCi/g
12-01163-15	TRG	JMBKGD-NW-31-120128	01/28/12 09:10	1/31/2012	2/22/2012	12-01163	Thorium-234	LANL ER-130 Modified	6.09E+00	3.03E+00	3.05E+00	2.29E+00	pCi/g
12-01163-15	TRG	JMBKGD-NW-31-120128	01/28/12 09:10	1/31/2012	2/22/2012	12-01163	Thallium-208	LANL ER-130 Modified	1.87E+00	3.69E-01	3.81E-01	6.26E-01	pCi/g
12-01163-15	TRG	JMBKGD-NW-31-120128	01/28/12 09:10	1/31/2012	2/22/2012	12-01163	Uranium-235	LANL ER-130 Modified	1.77E-01	4.28E-01	4.28E-01	7.26E-01	pCi/g
12-01163-16	TRG	JMBKGD-NE-31-120128	01/28/12 09:41	1/31/2012	2/22/2012	12-01163	Actinium-228	LANL ER-130 Modified	1.41E+00	5.16E-01	5.21E-01	7.59E-01	pCi/g
12-01163-16	TRG	JMBKGD-NE-31-120128	01/28/12 09:41	1/31/2012	2/22/2012	12-01163	Bismuth-214	LANL ER-130 Modified	2.64E+00	5.22E-01	5.39E-01	3.71E-01	pCi/g
12-01163-16	TRG	JMBKGD-NE-31-120128	01/28/12 09:41	1/31/2012	2/22/2012	12-01163	Potassium-40	LANL ER-130 Modified	1.61E+01	3.58E+00	3.67E+00	2.11E+00	pCi/g
12-01163-16	TRG	JMBKGD-NE-31-120128	01/28/12 09:41	1/31/2012	2/22/2012	12-01163	Protactinium-234m	LANL ER-130 Modified	5.52E+00	1.21E+01	1.21E+01	2.36E+01	pCi/g
12-01163-16	TRG	JMBKGD-NE-31-120128	01/28/12 09:41	1/31/2012	2/22/2012	12-01163	Lead-212	LANL ER-130 Modified	1.05E+00	2.42E-01	2.48E-01	4.31E-01	pCi/g
12-01163-16	TRG	JMBKGD-NE-31-120128	01/28/12 09:41	1/31/2012	2/22/2012	12-01163	Lead-214	LANL ER-130 Modified	2.41E+00	4.80E-01	4.95E-01	3.64E-01	pCi/g
12-01163-16	TRG	JMBKGD-NE-31-120128	01/28/12 09:41	1/31/2012	2/22/2012	12-01163	Radium-226	LANL ER-130 Modified	2.64E+00	5.22E-01	5.39E-01	3.71E-01	pCi/g
12-01163-16	TRG	JMBKGD-NE-31-120128	01/28/12 09:41	1/31/2012	2/22/2012	12-01163	Thorium-234	LANL ER-130 Modified	2.70E+00	2.66E+00	2.67E+00	3.09E+00	pCi/g
12-01163-16	TRG	JMBKGD-NE-31-120128	01/28/12 09:41	1/31/2012	2/22/2012	12-01163	Thallium-208	LANL ER-130 Modified	4.48E-01	3.69E-01	3.70E-01	6.89E-01	pCi/g
12-01163-16	TRG	JMBKGD-NE-31-120128	01/28/12 09:41	1/31/2012	2/22/2012	12-01163	Uranium-235	LANL ER-130 Modified	4.53E-02	6.19E-01	6.19E-01	1.05E+00	pCi/g

CU=Counting Uncertainty;CSU=Combined Standard Uncertainty (2-sigma);MDA=Minimal Detected Activity;LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original

SECTION V

ANALYTICAL STANDARD

Eckert & Ziegler
Analytics

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318
Tel 404•352•8677
Fax 404•352•2837
www.analyticsinc.com

CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

GAS - 1102

83913-416

Sand in 16 oz. PP Taral Jar Filled to Top

Customer: Eberline Services / Eberline Analytical Corp.
P.O. No.: 6705, Item 8
Reference Date: 01-Jan-2011 12:00 PM EST **Grams of Master Source:** 0.016810

This standard radionuclide source was prepared using aliquots measured gravimetrically from master radionuclide solutions. Calibration and purity were checked using a germanium gamma spectrometer system. At the time of calibration no interfering gamma-ray emitting impurities were detected. The gamma-ray emission rates for the most intense gamma-ray lines are given. Eckert & Ziegler Analytics (EZA) maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Revision 1, February, 1979, and compliance with ANSI N42.22-1995, "Traceability of Radioactive Sources to NIST." EZA is accredited by the Health Physics Society (HPS) for the production of NIST-traceable sources, and this source was produced in accordance with the HPS accreditation requirements. Customers may report any concerns with the accreditation program to the HPS Secretariat, 1313 Dolley Madison Blvd., Ste. 402, McLean, VA 22101.

Nuclide	Gamma-Ray Energy (keV)	Half-Life, Days	Master Source* γps/gram	This Source γps	Uncertainty, % Type u_A	u_B	U	Calibration Method
Am-241	59.5	1.580E+05	———	2.075E+03	0.1	1.7	3.5	4π LS
Cd-109	88.0	4.626E+02	1.697E+05	2.853E+03	0.8	2.3	4.9	HPGe
Co-57	122.1	2.718E+02	8.711E+04	1.464E+03	0.5	2.0	4.1	HPGe
Ce-139	165.9	1.376E+02	1.247E+05	2.096E+03	0.5	1.9	3.9	HPGe
Hg-203	279.2	4.661E+01	2.753E+05	4.628E+03	0.4	1.9	3.9	HPGe
Sn-113	391.7	1.151E+02	1.769E+05	2.974E+03	0.5	1.9	3.9	HPGe
Cs-137	661.7	1.098E+04	1.109E+05	1.864E+03	0.7	1.9	4.0	HPGe
Y-88	898.0	1.066E+02	4.224E+05	7.101E+03	0.5	1.9	3.9	HPGe
Co-60	1173.2	1.925E+03	2.142E+05	3.601E+03	0.6	1.9	4.0	HPGe
Co-60	1332.5	1.925E+03	2.143E+05	3.602E+03	0.6	1.9	4.0	HPGe
Y-88	1836.1	1.066E+02	4.472E+05	7.517E+03	0.5	1.9	3.9	HPGe

* Master Source refers to Analytics' 8-isotope mixture which is calibrated quarterly.

Calibration Methods: 4π LS - 4 pi Liquid Scintillation Counting, HPGe - High Purity Germanium Gamma-Ray Spectrometer, IC - Ionization Chamber. **Uncertainty:** U - Relative expanded uncertainty, k = 2. See NIST Technical Note 1297, "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results."

(Certificate continued on reverse side)

ACCREDITED SOURCE CALIBRATION LABORATORY HEALTH PHYSICS SOCIETY FOUNDED 1956

Eckert & Ziegler
Analytics

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318
Tel 404•352•8677
Fax 404•352•2837
www.analyticsinc.com

CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

GAS-1002

81341-416
Sand in 16 oz PP Taral Jar Filled to Top

Customer: Eberline Services / Eberline Analytical Corp. / Oak Ridge
P.O. No.: 5964, Item 6
Reference Date: 01-Jan-2010 12:00 PM EST **Grams of Master Source:** 0.017446

This standard radionuclide source was prepared using aliquots measured gravimetrically from master radionuclide solutions. Calibration and purity were checked using a germanium gamma spectrometer system. At the time of calibration no interfering gamma-ray emitting impurities were detected. The gamma-ray emission rates for the most intense gamma-ray lines are given. Eckert & Ziegler Analytics (EZA) maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Revision 1, February, 1979, and compliance with ANSI N42.22-1995, "Traceability of Radioactive Sources to NIST." EZA is accredited by the Health Physics Society (HPS) for the production of NIST-traceable sources, and this source was produced in accordance with the HPS accreditation requirements. Customers may report any concerns with the accreditation program to the HPS Secretariat, 1313 Dolley Madison Blvd., Ste. 402, McLean, VA 22101.

Nuclide	Gamma-Ray Energy (keV)	Half-Life, Days	Master Source* γps/gram	This Source γps	Uncertainty, % Type u_A	u_B	U	Calibration Method
Am-241	59.5	1.580E+05	———	2.020E+03	0.1	1.7	3.5	4π LS
Cd-109	88.0	4.626E+02	1.606E+05	2.802E+03	0.4	2.3	4.7	HPGe
Co-57	122.1	2.718E+02	8.471E+04	1.478E+03	0.5	2.0	4.1	HPGe
Ce-139	165.9	1.376E+02	1.209E+05	2.109E+03	0.4	1.9	3.9	HPGe
Hg-203	279.2	4.661E+01	2.726E+05	4.756E+03	0.4	1.9	3.9	HPGe
Sn-113	391.7	1.151E+02	1.672E+05	2.917E+03	0.5	1.9	3.9	HPGe
Cs-137	661.7	1.098E+04	1.096E+05	1.912E+03	0.6	1.9	4.0	HPGe
Y-88	898.0	1.066E+02	4.077E+05	7.113E+03	0.4	1.9	3.9	HPGe
Co-60	1173.2	1.925E+03	2.055E+05	3.585E+03	0.5	1.9	3.9	HPGe
Co-60	1332.5	1.925E+03	2.056E+05	3.587E+03	0.7	1.9	4.0	HPGe
Y-88	1836.1	1.066E+02	4.308E+05	7.516E+03	0.5	1.9	3.9	HPGe

* Master Source refers to Analytics' 8-isotope mixture which is calibrated quarterly.

Calibration Methods: 4π LS - 4 pi Liquid Scintillation Counting, HPGe - High Purity Germanium Gamma-Ray Spectrometer, IC - Ionization Chamber. **Uncertainty:** U - Relative expanded uncertainty, k = 2. See NIST Technical Note 1297, "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results."

(Certificate continued on reverse side)

Corporate Office

Laboratory
1380 Seaboard Industrial Blvd. Atlanta, Georgia 30318

Comments:
260 mL / 260 g of pulverized soil.
This standard will expire one year after the reference date.

Source Prepared by: MITaskaeva
M. I. Taskaeva, Radiochemist

QA Approved: [signature] Date: 1/29/10
J. D. McCorvey, QA Manager Alternate

ACCREDITED SOURCE CALIBRATION LABORATORY HEALTH PHYSICS SOCIETY FOUNDED 1956

SECTION VI

QUALITY CONTROL SAMPLE RESULTS SUMMARY

Eberline Services
Analysis Control Chart

WO	Analysis	Run	Activity Units	Aliquot Units	Client Name
12-01163	Gamma	1	pCi	g	Weston Solutions, Inc.

Laboratory Control Sample

Analyte	Normalized Difference	LCS Measured	CSU Measured	LCS Expected	Uncert. Expected	Known	Known Error	Result	CSU	Standard ID	Standard ACT (dpm)	Standard Error	Standard Added (g)
CO-60	1.17	95.07%	8.27%	100.00%	3.95%	1.32E+02	5.20E+00	1.25E+02	1.04E+01	GAS-1002	1.32E+02	5.20E+00	7.36E+02
CS-137	0.68	96.05%	11.46%	100.00%	4.00%	8.25E+01	3.30E+00	7.92E+01	9.08E+00	GAS-1002	8.25E+01	3.30E+00	7.36E+02

Matrix Spike

Analyte	*Normalized Difference*	*MS Actual % Rec*	*Expected MS Result*	*Expected MS Uncert*	*Actual MS Result*	*Actual MS CSU*	*Sample Result*	*Sample CSU*	*Sample Aliquot*	*Standard ID*	*Standard ACT (dpm)*	*Standard Error %*	*Standard Added (g)*

Replicate Sample

Analyte	*Normalized Difference*	*RPD*	*Original Result*	*Original CSU*	*Replicate Result*	*Replicate CSU*
BI-214	0.17	0.90	1.57E+02	1.11E+01	1.55E+02	1.10E+01
K-40	0.01	0.18	2.27E+01	4.27E+00	2.27E+01	4.08E+00
PB-214	0.10	0.58	1.55E+02	1.28E+01	1.55E+02	1.29E+01

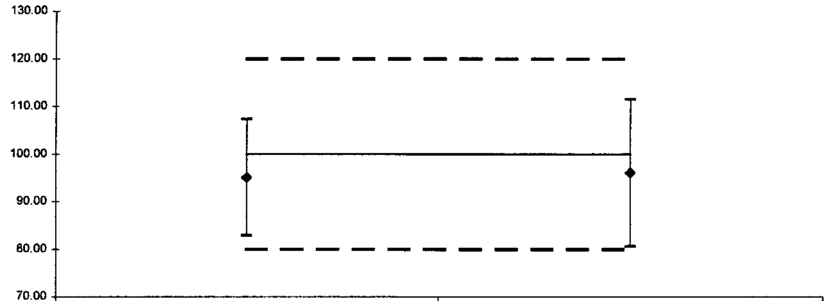
QC Summary

LCS Relative Bias	*LCS % R*	*LCS ND*	*MS % R*	*MS ND*	*Rep RPD*	*Rep ND*
0.95	OK	OK	<CS-137	BI-214>	NA	
0.96	OK	OK	<CO-60	K-40>	NA	OK
				PB-214>	NA	OK

Version

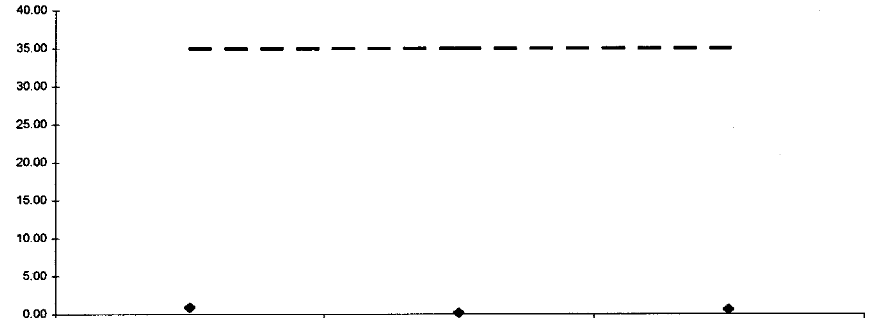
WO	Analysis	Run	Activity Units	Aliquot Units	Client Name
12-01163	Gamma	1	pCi	g	Weston Solutions, Inc.

LCS % Recovery



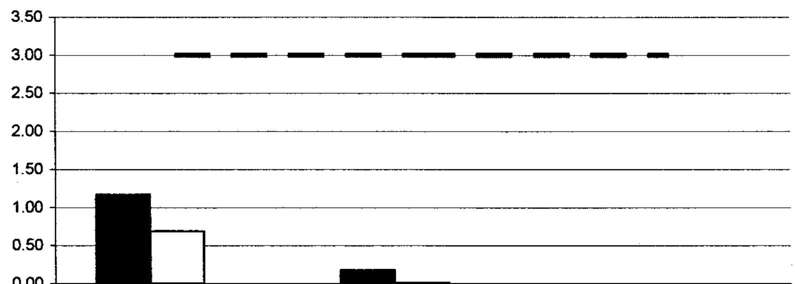
	CO-60	CS-137
Lower Error	82.85	80.59
Upper Error	107.29	111.51
%R	95.07	96.05
LCL	80	80
Mean	100	100
UCL	120	120

Replicate Sample RPD



	BI-214	K-40	PB-214
Lower Error	0.93	0.19	0.60
Upper Error	0.87	0.16	0.56
RPD	0.90	0.18	0.58
CL	35	35	35

Normalized Difference



	LCS ND	REP ND	MS ND
CO-60	1.17	0.17	0.00
CS-137	0.68	0.01	0.00
	0.00	0.00	0.00
'UCL	3	3	3

No Matrix Spike

SECTION VII

LABORATORY TECHNICIAN'S NOTES
&
RUN LOGS

GE 1

DATE	Sample #	Client	Load Time	CT Time	Analysis	Tech
2/20/12	1202081-01	ULOR	1723	30 mins.	✓	KB
2/20/12	1202075-06	Enviro Matters	1821	1 hr	✓	KB
2/21/12	GAS-1101	LAB	0524	15 min	✓	✓
2/21/12	Daily BUGD	LAB	0548	15 min	✓	✓
2/21/12	GAW-1	LAB	0611	15 min	✓	✓
2/21/12	GAS-1102	LAB	0636	15 min	✓	✓
2/21/12	1201055-07	Eberline	0700	1 h	✓	✓
2/21/12	1201055-04	Eberline	0816	1 h	✓	✓
2/21/12	GAS-~~1102~~ 1107 correction	LAB	~~0524~~ 0920	15 min	✓	✓
2/21/12	1201055-17	Eberline	0912	1 h	✓	✓
2/21/12	1201055-16	Eberline Serv.	1117	1 hr	✓	KB
2/21/12	1202091-05	Kimbrell	1219	1 hr	✓	KB
2/21/12	1202091-07	Kimbrell	1322	1 hr	✓	KB
2/21/12	1202098-01	ALMAC	1424	30 min	✓	KB
2/21/12	1202098-02	ALMAC	1459	30 min	✓	KB
2/21/12	1202098-03	ALMAC	1531	30 min	✓	KB
2/21/12	1202098-04	ALMAC	1602	30 min	✓	KB
2/21/12	1201018-12	Eberline Serv.	1634	1 hr	✓	KB
2/21/12	1201018-16	Eberline Serv.	1735	1 hr	✓	KB
2/21/12	1201137-06	Anacon	1836	1 hr	✓	KB
2/22/12	GAS-1101	LAB	0513	15 min	✓	✓
2/22/12	Daily BUGD	LAB	0537	15 min	✓	✓
2/22/12	GAW-1	LAB	0601	15 min	✓	✓
2/22/12	GAS-1102	LAB	0622	15 min	✓	✓
2/22/12	GAS-1102	LAB	0641	15 min	✓	✓
2/22/12	1201177-07	Anacon	0703	1 hr	✓	✓
2/22/12	1201054-08	Eberline	0814	1 h	✓	✓
2/22/12	1201177-01	Anacon	0816	30 min	✓	✓
2/22/12	1201163-01	Weston Sol.	0910	30 min	✓	✓
2/22/12	1201163-07	Weston Sol.	1027	1 h	✓	✓
2/22/12	1201163-04	Weston	1131	1 hr	✓	KB
2/22/12	1201163-09	Weston	1232	1 hr	✓	KB
2/22/12	1201163-13	Weston	1338	1 hr	✓	KB

GE 2

DATE	SAMPLE #	Client	Load Time	CT Time	Analysis	Tech
2/20/12	1202075-07	Eno Nuclear	1822	1hr	✓	ICB
2/21/12	GAS-nor	LAB	0528	1hr	✓	ICB
2/21/12	GAS-nor	LAB	0548	1hr	✓	ICB
2/21/12	Daily AKGD	LAB	0611	1hr	✓	ICB
2/21/12	GA-n	LAB	0677	1hr	✓	ICB
2/21/12	1201055-05	Eberline	0706	2h	✓	ICB
2/21/12	1201055-08	Eberline	0817	2h	✓	ICB
2/21/12	GAS ~~[illegible]~~	LAB	0551	1hr	✓	ICB
2/21/12	1202091-07	Kimbrell	1014	2h	✓	ICB
2/21/12	1202091-04	Kimbrell	1125	1hr	✓	ICB
2/21/12	1202091-06	Kimbrell	1226	1hr	✓	ICB
2/21/12	1202091-08	Kimbrell	1327	1hr	✓	ICB
2/21/12	1201018-05	Eberline Serv.	1428	1hr	✓	ICB
2/21/12	1201018-08	Eberline Serv.	1529	1hr	✓	ICB
2/21/12	1201018-11	Eberline Serv.	1629	1hr	✓	ICB
2/21/12	1201018-15	Eberline Serv.	1730	1hr	✓	ICB
2/21/12	1201137-05	AnAcon	1831	1hr	✓	ICB
2/22/12	GAS-nor	LAB	0517	1hr	✓	ICB
2/22/12	GAS-nor	LAB	0578	1hr	✓	ICB
2/22/12	Daily AKGD	LAB	0600	1hr	✓	ICB
2/22/12	GA-n	LAB	0622	1hr	✓	ICB
~~2/22/12~~	~~1201137-02~~	~~Anacon~~	~~0707~~	~~2hr~~	~~✓~~	~~ICB~~
2/22/12	1201054-06	Eberline	0707	2h	✓	ICB
2/22/12	1201054-09	Eberline	0900	2h	✓	ICB
2/22/12	1201163-02	Weston [illegible]	1004	2h	✓	ICB
2/22/12	1201163-06	Weston	1107	1hr	✓	ICB
2/22/12	1201163-08	Weston	1209	1hr	✓	ICB
2/22/12	1201163-11	Weston	1312	1hr	✓	ICB
2/22/12	1201163-15	Weston	1413	1hr	✓	ICB

DATE	SAMPLE #	Client	Load Time	CT Time	Analysis	Tech
2/21/12	1201018-06	Eberline Serv.	1440	1 hr	✓	KB
2/21/12	1201018-09	Eberline Serv.	1541	1 hr	✓	KB
2/21/12	1201018-13	Eberline Serv.	1642	1 hr	✓	KB
2/21/12	1201018-01	Eberline Serv.	1743	30 mins	✓	KB
2/21/12	1201137-03	Anacon	1818	1 hr	✓	KB
2/22/12	[illegible]	LAB	0454	15 min	✓	[illegible]
2/22/12	GAS-[illegible]	LAB	0578	15 min	✓	[illegible]
2/22/12	GAS-[illegible]	LAB	0601	15 min	✓	[illegible]
2/22/12	Daily check	LAB	0627	15 min	✓	[illegible]
2/22/12	1201177-04	Anacon	0710	2 h	✓	[illegible]
2/22/12	1201054-08	Eberline	0815	2 h	✓	[illegible]
2/22/12	1201054-10	Eberline	0918	2 h	✓	[illegible]
2/22/12	1201163-05	Weston sol.	1023	2 h	✓	[illegible]
2/22/12	1201163-07	Weston	1134	1 hr	✓	KB
2/22/12	1201163-10	Weston	1237	1 hr	✓	KB
2/22/12	1201163-14	Weston	1340	1 hr	✓	KB

DATE	SAmple #	Client	Load Time	CT Time	Analysis	Tech
2/22/12	1201166-03	Accutest	1020	15 min	Ba	[illegible]
2/22/12	1201166-04	Accutest	1052	15 min	Ba	KB
2/22/12	1201166-05	Accutest	1110	15 min	Ba	KB
2/22/12	1201166-07	Accutest	1129	15 min	Ba	KB
2/22/12	1201166-09	Accutest	1144	15 min	Ba	KB
2/22/12	1201166-11	Accutest	1202	15 min	Ba	KB
2/22/12	1201166-13	Accutest	1219	15 min	Ba	KB
2/22/12	1201166-15	Accutest	1235	15 min	Ba	KB
2/22/12	1201166-17	Accutest	1251	15 min	Ba	KB
2/22/12	1201166-19	Accutest	1309	15 min	Ba	KB
2/22/12	1201163-12	Weston sol	1725	1L	[illegible]	[illegible]
2/22/12	1201163-14	Weston	1426	1hr	[illegible]	KB

SECTION VIII

ANALYTICAL DATA (GAMMA SPECTROSCOPY)

Work Order	12-01163
Analysis Code	Gamma
Run	1
Date Received	1/31/2012
Lab Deadline	2/21/2012
Client	Weston Solutions, Inc.
Project	0070138 U Mines
Report Level	4
Activity Units	pCi
Aliquot Units	g
Matrix	SO
Method	LANL ER-130 Modified
Instrument Type	Gamma Spectroscopy
Radiometric Tracer	
Radiometric Sol#	
Tracer Act (dpm/g)	
Carrier	
Carrier Conc (mg/ml)	

Internal Fraction	*Sample Desc*	*Client ID*	*Login CPM*	*Sample Date*	*Sample Aliquot*
01	LCS	LCS		01/31/12 00:00	1.0000E+00
02	MBL	BLANK		01/31/12 00:00	1.0000E+00
03	DUP	JM-70-32-120128	254	01/28/12 17:00	5.7999E+02
04	DO	JM-70-32-120128	254	01/28/12 17:00	5.7999E+02
05	TRG	JM-70-31-120128	262	01/28/12 17:00	6.2101E+02
06	TRG	JM-88-31-120128	207	01/28/12 16:34	4.0710E+02
07	TRG	JM-77-31-120128	181	01/28/12 16:55	5.5463E+02
08	TRG	JM-65-31-120128	213	01/28/12 17:02	4.4226E+02
09	TRG	JM-66-31-120128	170	01/28/12 17:05	5.8793E+02
10	TRG	JM-73-31-120128	131	01/28/12 16:57	5.3301E+02
11	TRG	JM-55-31-120128	123	01/28/12 17:10	4.1089E+02
12	TRG	JM-82-31-120128	109	01/28/12 16:45	4.1638E+02
13	TRG	JM-84-31-120128	56	01/28/12 16:38	4.6364E+02
14	TRG	JM-54-31-120128	105	01/28/12 17:12	3.7681E+02
15	TRG	JMBKGD-NW-31-120128	47	01/28/12 09:10	3.4525E+02
16	TRG	JMBKGD-NE-31-120128	50	01/28/12 09:41	3.6900E+02

* SAF1 is used for Gross Alpha and all other radionuclides. SAF2 is used for Gross Beta only. ** Actual mass exceeded the calibration curve range. Results should be qualified as appropriate.

Eberline Services
Oak Ridge Laboratory
Analysis Sheet

12-01163
Gamma
Run 1

Internal Fraction	*Sample Desc*	*Tracer Aliquot (g)*	*Tracer Total ACT (dpm)*	*Radiometric Tracer (pCi)*	*Radiometric % Rec*	*Grav Carrier Added (ml)*	*Grav Filter Tare (g)*	*Grav Filter Final (g)*	*Grav Filter Net (g)*	*Grav % Rec*	*Mean % Rec*	*SAF 1**	*SAF 2**
01	LCS				0.00								
02	MBL				0.00								
03	DUP				0.00								
04	DO				0.00								
05	TRG				0.00								
06	TRG				0.00								
07	TRG				0.00								
08	TRG				0.00								
09	TRG				0.00								
10	TRG				0.00								
11	TRG				0.00								
12	TRG				0.00								
13	TRG				0.00								
14	TRG				0.00								
15	TRG				0.00								
16	TRG				0.00								

* SAF1 is used for Gross Alpha and all other radionuclides. SAF2 is used for Gross Beta only. ** Actual mass exceeded the calibration curve range. Results should be qualified as appropriate.

12-01163
Gamma
Run 1

Internal Fraction	*Sample Desc*	*Rough Prep Date*	*Rough Prep By*	*Prep Date*	*Prep By*	*Sep t0 Date/Time*	*Sep t0 By*	*Sep t1 Date/Time*	*Sep t1 By*
01	**LCS**								
02	**MBL**								
03	**DUP**								
04	**DO**	02/01/12 08:14	KSALLINGS						
05	**TRG**	02/01/12 08:14	KSALLINGS						
06	**TRG**	02/01/12 08:14	KSALLINGS						
07	**TRG**	02/01/12 08:14	KSALLINGS						
08	**TRG**	02/01/12 08:14	KSALLINGS						
09	**TRG**	02/01/12 08:14	KSALLINGS						
10	**TRG**	02/01/12 08:14	KSALLINGS						
11	**TRG**	02/01/12 08:14	KSALLINGS						
12	**TRG**	02/01/12 08:14	KSALLINGS						
13	**TRG**	02/01/12 08:14	KSALLINGS						
14	**TRG**	02/01/12 08:14	KSALLINGS						
15	**TRG**	02/01/12 08:14	KSALLINGS						
16	**TRG**	02/01/12 08:14	KSALLINGS						

* SAF1 is used for Gross Alpha and all other radionuclides. SAF2 is used for Gross Beta only. ** Actual mass exceeded the calibration curve range. Results should be qualified as appropriate.

Preliminary Data Report & Analytical Calculations

Work Order: 12-01163-Gamma-1

Lab Fraction	Nuclide	Sample Desc	Client Identification	Activity Units	Results	Error Estimate	MDA	LSC Known	LCS %R	LCS Flag	RPD Flag	Sample Date	Sample Aliquot	Counting Date/Time	Identified
01	CO-60	LCS	LCS	pCi/g	1.25E+02	8.13E+00	5.68E-01	1.32E+02	95.07	OK		01/31/12 00:00	1.00E+00	02/22/12 09:50	YES
01	CS-137	LCS	LCS	pCi/g	7.92E+01	8.12E+00	4.84E-01	8.25E+01	96.05	OK		01/31/12 00:00	1.00E+00	02/22/12 09:50	YES
02	AC-228	MBL	BLANK	pCi/g	3.46E-04	5.98E-02	1.15E-01					01/31/12 00:00	1.00E+00	02/22/12 10:04	NO
02	BI-214	MBL	BLANK	pCi/g	-1.81E-02	3.68E-02	6.28E-02					01/31/12 00:00	1.00E+00	02/22/12 10:04	NO
02	K-40	MBL	BLANK	pCi/g	5.84E-02	1.86E-01	4.21E-01					01/31/12 00:00	1.00E+00	02/22/12 10:04	NO
02	PA-234M	MBL	BLANK	pCi/g	-2.41E-03	2.26E+00	3.82E+00					01/31/12 00:00	1.00E+00	02/22/12 10:04	NO
02	PB-212	MBL	BLANK	pCi/g	3.99E-03	3.30E-02	6.01E-02					01/31/12 00:00	1.00E+00	02/22/12 10:04	NO
02	PB-214	MBL	BLANK	pCi/g	7.72E-03	3.75E-02	6.56E-02					01/31/12 00:00	1.00E+00	02/22/12 10:04	NO
02	RA-226	MBL	BLANK	pCi/g	-1.81E-02	3.68E-02	6.28E-02					01/31/12 00:00	1.00E+00	02/22/12 10:04	NO
02	TH-234	MBL	BLANK	pCi/g	4.80E-01	3.76E-01	4.25E-01					01/31/12 00:00	1.00E+00	02/22/12 10:04	YES
02	TL-208	MBL	BLANK	pCi/g	4.81E-02	4.15E-02	8.87E-02					01/31/12 00:00	1.00E+00	02/22/12 10:04	YES
03	AC-228	DUP	JM-70-32-120128	pCi/g	3.67E-01	7.13E-01	1.20E+00					01/28/12 17:00	5.80E+02	02/22/12 10:27	NO
03	BI-214	DUP	JM-70-32-120128	pCi/g	1.55E+02	7.64E+00	5.59E-01				NA	01/28/12 17:00	5.80E+02	02/22/12 10:27	YES
03	K-40	DUP	JM-70-32-120128	pCi/g	2.27E+01	3.91E+00	3.05E+00				NA	01/28/12 17:00	5.80E+02	02/22/12 10:27	YES
03	PA-234M	DUP	JM-70-32-120128	pCi/g	1.20E+02	3.72E+01	3.37E+01					01/28/12 17:00	5.80E+02	02/22/12 10:27	YES
03	PB-212	DUP	JM-70-32-120128	pCi/g	3.49E+00	5.27E-01	7.06E-01					01/28/12 17:00	5.80E+02	02/22/12 10:27	NO
03	PB-214	DUP	JM-70-32-120128	pCi/g	1.55E+02	1.01E+01	7.15E-01				NA	01/28/12 17:00	5.80E+02	02/22/12 10:27	YES
03	RA-226	DUP	JM-70-32-120128	pCi/g	1.55E+02	7.64E+00	5.59E-01					01/28/12 17:00	5.80E+02	02/22/12 10:27	YES
03	TH-234	DUP	JM-70-32-120128	pCi/g	8.94E+01	9.84E+00	8.36E+00					01/28/12 17:00	5.80E+02	02/22/12 10:27	YES
03	TL-208	DUP	JM-70-32-120128	pCi/g	1.11E+00	6.14E-01	9.53E-01					01/28/12 17:00	5.80E+02	02/22/12 10:27	NO
03	U-235	DUP	JM-70-32-120128	pCi/g	8.18E+00	3.28E+00	2.75E+00					01/28/12 17:00	5.80E+02	02/22/12 10:27	YES
04	AC-228	DO	JM-70-32-120128	pCi/g	4.72E-01	7.84E-01	1.19E+00					01/28/12 17:00	5.80E+02	02/22/12 11:31	NO
04	BI-214	DO	JM-70-32-120128	pCi/g	1.57E+02	7.71E+00	5.69E-01					01/28/12 17:00	5.80E+02	02/22/12 11:31	YES
04	K-40	DO	JM-70-32-120128	pCi/g	2.27E+01	4.11E+00	3.08E+00					01/28/12 17:00	5.80E+02	02/22/12 11:31	YES
04	PA-234M	DO	JM-70-32-120128	pCi/g	1.49E+02	4.24E+01	3.31E+01					01/28/12 17:00	5.80E+02	02/22/12 11:31	YES
04	PB-212	DO	JM-70-32-120128	pCi/g	9.33E-01	4.56E-01	6.26E-01					01/28/12 17:00	5.80E+02	02/22/12 11:31	YES
04	PB-214	DO	JM-70-32-120128	pCi/g	1.55E+02	1.01E+01	7.23E-01					01/28/12 17:00	5.80E+02	02/22/12 11:31	YES
04	RA-226	DO	JM-70-32-120128	pCi/g	1.57E+02	7.71E+00	5.69E-01					01/28/12 17:00	5.80E+02	02/22/12 11:31	YES
04	TH-234	DO	JM-70-32-120128	pCi/g	9.28E+01	1.01E+01	8.49E+00					01/28/12 17:00	5.80E+02	02/22/12 11:31	YES
04	TL-208	DO	JM-70-32-120128	pCi/g	6.88E-01	1.91E-01	8.63E-01					01/28/12 17:00	5.80E+02	02/22/12 11:31	YES
04	U-235	DO	JM-70-32-120128	pCi/g	6.98E+00	3.05E+00	2.73E+00					01/28/12 17:00	5.80E+02	02/22/12 11:31	YES
05	AC-228	TRG	JM-70-31-120128	pCi/g	1.14E+00	1.12E+00	1.34E+00					01/28/12 17:00	6.21E+02	02/22/12 10:29	NO
05	BI-214	TRG	JM-70-31-120128	pCi/g	1.38E+02	7.54E+00	5.81E-01					01/28/12 17:00	6.21E+02	02/22/12 10:29	YES
05	K-40	TRG	JM-70-31-120128	pCi/g	2.09E+01	4.27E+00	3.52E+00					01/28/12 17:00	6.21E+02	02/22/12 10:29	YES
05	PA-234M	TRG	JM-70-31-120128	pCi/g	1.17E+02	4.22E+01	3.70E+01					01/28/12 17:00	6.21E+02	02/22/12 10:29	YES
05	PB-212	TRG	JM-70-31-120128	pCi/g	2.22E+00	8.06E-01	6.45E-01					01/28/12 17:00	6.21E+02	02/22/12 10:29	NO
05	PB-214	TRG	JM-70-31-120128	pCi/g	1.38E+02	3.21E+01	7.15E-01					01/28/12 17:00	6.21E+02	02/22/12 10:29	YES
05	RA-226	TRG	JM-70-31-120128	pCi/g	1.38E+02	7.54E+00	5.81E-01					01/28/12 17:00	6.21E+02	02/22/12 10:29	YES

Preliminary Data Report & Analytical Calculations

Work Order: 12-01163-Gamma-1

Lab Fraction	Nuclide	Sample Desc	Client Identification	Activity Units	Results	Error Estimate	MDA	LSC Known	LCS %R	LCS Flag	RPD Flag	Sample Date	Sample Aliquot	Counting Date/Time	Identified
05	TH-234	TRG	JM-70-31-120128	pCi/g	9.44E+01	1.06E+01	7.57E+00					01/28/12 17:00	6.21E+02	02/22/12 10:29	YES
05	TL-208	TRG	JM-70-31-120128	pCi/g	7.69E-01	6.05E-01	9.59E-01					01/28/12 17:00	6.21E+02	02/22/12 10:29	NO
05	U-235	TRG	JM-70-31-120128	pCi/g	8.98E+00	2.43E+00	2.50E+00					01/28/12 17:00	6.21E+02	02/22/12 10:29	YES
06	AC-228	TRG	JM-88-31-120128	pCi/g	-5.56E-01	1.11E+00	1.82E+00					01/28/12 16:34	4.07E+02	02/22/12 11:07	NO
06	BI-214	TRG	JM-88-31-120128	pCi/g	2.34E+02	1.23E+01	8.57E-01					01/28/12 16:34	4.07E+02	02/22/12 11:07	YES
06	K-40	TRG	JM-88-31-120128	pCi/g	2.72E+01	6.59E+00	4.75E+00					01/28/12 16:34	4.07E+02	02/22/12 11:07	YES
06	PA-234M	TRG	JM-88-31-120128	pCi/g	2.07E+02	5.35E+01	5.20E+01					01/28/12 16:34	4.07E+02	02/22/12 11:07	YES
06	PB-212	TRG	JM-88-31-120128	pCi/g	5.67E+00	7.78E-01	1.00E+00					01/28/12 16:34	4.07E+02	02/22/12 11:07	NO
06	PB-214	TRG	JM-88-31-120128	pCi/g	2.42E+02	1.62E+01	1.05E+00					01/28/12 16:34	4.07E+02	02/22/12 11:07	YES
06	RA-226	TRG	JM-88-31-120128	pCi/g	2.34E+02	1.23E+01	8.57E-01					01/28/12 16:34	4.07E+02	02/22/12 11:07	YES
06	TH-234	TRG	JM-88-31-120128	pCi/g	1.93E+02	2.02E+01	1.17E+01					01/28/12 16:34	4.07E+02	02/22/12 11:07	YES
06	TL-208	TRG	JM-88-31-120128	pCi/g	1.75E+00	8.96E-01	1.40E+00					01/28/12 16:34	4.07E+02	02/22/12 11:07	NO
06	U-235	TRG	JM-88-31-120128	pCi/g	1.46E+01	3.24E+00	3.74E+00					01/28/12 16:34	4.07E+02	02/22/12 11:07	YES
07	AC-228	TRG	JM-77-31-120128	pCi/g	1.37E+00	6.91E-01	1.11E+00					01/28/12 16:55	5.55E+02	02/22/12 11:34	YES
07	BI-214	TRG	JM-77-31-120128	pCi/g	8.38E+01	4.74E+00	5.29E-01					01/28/12 16:55	5.55E+02	02/22/12 11:34	YES
07	K-40	TRG	JM-77-31-120128	pCi/g	2.33E+01	4.44E+00	2.80E+00					01/28/12 16:55	5.55E+02	02/22/12 11:34	YES
07	PA-234M	TRG	JM-77-31-120128	pCi/g	1.34E+02	3.41E+01	3.22E+01					01/28/12 16:55	5.55E+02	02/22/12 11:34	YES
07	PB-212	TRG	JM-77-31-120128	pCi/g	1.80E+00	6.85E-01	4.94E-01					01/28/12 16:55	5.55E+02	02/22/12 11:34	YES
07	PB-214	TRG	JM-77-31-120128	pCi/g	8.46E+01	1.97E+01	5.96E-01					01/28/12 16:55	5.55E+02	02/22/12 11:34	YES
07	RA-226	TRG	JM-77-31-120128	pCi/g	8.38E+01	4.74E+00	5.29E-01					01/28/12 16:55	5.55E+02	02/22/12 11:34	YES
07	TH-234	TRG	JM-77-31-120128	pCi/g	1.13E+02	1.14E+01	6.78E+00					01/28/12 16:55	5.55E+02	02/22/12 11:34	YES
07	TL-208	TRG	JM-77-31-120128	pCi/g	1.15E+00	2.94E-01	7.90E-01					01/28/12 16:55	5.55E+02	02/22/12 11:34	YES
07	U-235	TRG	JM-77-31-120128	pCi/g	6.95E+00	1.74E+00	2.09E+00					01/28/12 16:55	5.55E+02	02/22/12 11:34	YES
08	AC-228	TRG	JM-65-31-120128	pCi/g	2.75E-01	1.25E+00	2.07E+00					01/28/12 17:02	4.42E+02	02/22/12 12:09	NO
08	BI-214	TRG	JM-65-31-120128	pCi/g	3.17E+02	1.65E+01	9.80E-01					01/28/12 17:02	4.42E+02	02/22/12 12:09	YES
08	K-40	TRG	JM-65-31-120128	pCi/g	2.90E+01	6.68E+00	5.26E+00					01/28/12 17:02	4.42E+02	02/22/12 12:09	YES
08	PA-234M	TRG	JM-65-31-120128	pCi/g	2.51E+02	5.67E+01	5.81E+01					01/28/12 17:02	4.42E+02	02/22/12 12:09	YES
08	PB-212	TRG	JM-65-31-120128	pCi/g	6.44E+00	8.86E-01	1.13E+00					01/28/12 17:02	4.42E+02	02/22/12 12:09	NO
08	PB-214	TRG	JM-65-31-120128	pCi/g	3.32E+02	2.23E+01	1.17E+00					01/28/12 17:02	4.42E+02	02/22/12 12:09	YES
08	RA-226	TRG	JM-65-31-120128	pCi/g	3.17E+02	1.65E+01	9.80E-01					01/28/12 17:02	4.42E+02	02/22/12 12:09	YES
08	TH-234	TRG	JM-65-31-120128	pCi/g	2.13E+02	2.25E+01	1.36E+01					01/28/12 17:02	4.42E+02	02/22/12 12:09	YES
08	TL-208	TRG	JM-65-31-120128	pCi/g	9.98E-01	9.84E-01	1.52E+00					01/28/12 17:02	4.42E+02	02/22/12 12:09	NO
08	U-235	TRG	JM-65-31-120128	pCi/g	1.42E+01	3.63E+00	4.27E+00					01/28/12 17:02	4.42E+02	02/22/12 12:09	YES
09	AC-228	TRG	JM-66-31-120128	pCi/g	6.54E-01	6.00E-01	1.02E+00					01/28/12 17:05	5.88E+02	02/22/12 12:32	NO
09	BI-214	TRG	JM-66-31-120128	pCi/g	1.12E+02	5.62E+00	4.75E-01					01/28/12 17:05	5.88E+02	02/22/12 12:32	YES
09	K-40	TRG	JM-66-31-120128	pCi/g	1.96E+01	3.56E+00	2.55E+00					01/28/12 17:05	5.88E+02	02/22/12 12:32	YES
09	PA-234M	TRG	JM-66-31-120128	pCi/g	3.84E+01	2.71E+01	2.88E+01					01/28/12 17:05	5.88E+02	02/22/12 12:32	YES
09	PB-212	TRG	JM-66-31-120128	pCi/g	1.03E+00	3.83E-01	5.14E-01					01/28/12 17:05	5.88E+02	02/22/12 12:32	YES

Preliminary Data Report & Analytical Calculations

Work Order: 12-01163-Gamma-1

Lab Fraction	Nuclide	Sample Desc	Client Identification	Activity Units	Results	Error Estimate	MDA	LSC Known	LCS %R	LCS Flag	RPD Flag	Sample Date	Sample Aliquot	Counting Date/Time	Identified
09	PB-214	TRG	JM-66-31-120128	pCi/g	1.12E+02	7.30E+00	5.97E-01					01/28/12 17:05	5.88E+02	02/22/12 12:32	YES
09	RA-226	TRG	JM-66-31-120128	pCi/g	1.12E+02	5.62E+00	4.75E-01					01/28/12 17:05	5.88E+02	02/22/12 12:32	YES
09	TH-234	TRG	JM-66-31-120128	pCi/g	2.58E+01	6.10E+00	6.80E+00					01/28/12 17:05	5.88E+02	02/22/12 12:32	YES
09	TL-208	TRG	JM-66-31-120128	pCi/g	1.39E+00	5.16E-01	8.07E-01					01/28/12 17:05	5.88E+02	02/22/12 12:32	NO
09	U-235	TRG	JM-66-31-120128	pCi/g	4.69E+00	1.95E+00	2.33E+00					01/28/12 17:05	5.88E+02	02/22/12 12:32	NO
10	AC-228	TRG	JM-73-31-120128	pCi/g	1.71E+00	1.37E+00	1.49E+00					01/28/12 16:57	5.33E+02	02/22/12 12:37	NO
10	BI-214	TRG	JM-73-31-120128	pCi/g	1.46E+02	8.01E+00	6.63E-01					01/28/12 16:57	5.33E+02	02/22/12 12:37	YES
10	K-40	TRG	JM-73-31-120128	pCi/g	1.93E+01	4.61E+00	3.93E+00					01/28/12 16:57	5.33E+02	02/22/12 12:37	YES
10	PA-234M	TRG	JM-73-31-120128	pCi/g	1.03E+02	4.57E+01	4.16E+01					01/28/12 16:57	5.33E+02	02/22/12 12:37	YES
10	PB-212	TRG	JM-73-31-120128	pCi/g	1.80E+00	7.11E-01	7.01E-01					01/28/12 16:57	5.33E+02	02/22/12 12:37	NO
10	PB-214	TRG	JM-73-31-120128	pCi/g	1.46E+02	3.41E+01	7.92E-01					01/28/12 16:57	5.33E+02	02/22/12 12:37	YES
10	RA-226	TRG	JM-73-31-120128	pCi/g	1.46E+02	8.01E+00	6.63E-01					01/28/12 16:57	5.33E+02	02/22/12 12:37	YES
10	TH-234	TRG	JM-73-31-120128	pCi/g	5.70E+01	7.96E+00	7.99E+00					01/28/12 16:57	5.33E+02	02/22/12 12:37	YES
10	TL-208	TRG	JM-73-31-120128	pCi/g	1.14E+00	6.70E-01	1.07E+00					01/28/12 16:57	5.33E+02	02/22/12 12:37	NO
10	U-235	TRG	JM-73-31-120128	pCi/g	6.40E+00	4.52E+00	2.69E+00					01/28/12 16:57	5.33E+02	02/22/12 12:37	YES
11	AC-228	TRG	JM-55-31-120128	pCi/g	1.41E+00	1.16E+00	1.47E+00					01/28/12 17:10	4.11E+02	02/22/12 13:12	NO
11	BI-214	TRG	JM-55-31-120128	pCi/g	1.27E+02	7.90E+00	6.44E-01					01/28/12 17:10	4.11E+02	02/22/12 13:12	YES
11	K-40	TRG	JM-55-31-120128	pCi/g	2.36E+01	4.01E+00	3.54E+00					01/28/12 17:10	4.11E+02	02/22/12 13:12	YES
11	PA-234M	TRG	JM-55-31-120128	pCi/g	8.56E+01	3.73E+01	3.93E+01					01/28/12 17:10	4.11E+02	02/22/12 13:12	YES
11	PB-212	TRG	JM-55-31-120128	pCi/g	9.16E-01	4.88E-01	6.40E-01					01/28/12 17:10	4.11E+02	02/22/12 13:12	YES
11	PB-214	TRG	JM-55-31-120128	pCi/g	1.36E+02	9.16E+00	7.99E-01					01/28/12 17:10	4.11E+02	02/22/12 13:12	YES
11	RA-226	TRG	JM-55-31-120128	pCi/g	1.27E+02	7.90E+00	6.44E-01					01/28/12 17:10	4.11E+02	02/22/12 13:12	YES
11	TH-234	TRG	JM-55-31-120128	pCi/g	8.57E+01	1.12E+01	8.60E+00					01/28/12 17:10	4.11E+02	02/22/12 13:12	YES
11	TL-208	TRG	JM-55-31-120128	pCi/g	6.27E-01	2.40E-01	9.57E-01					01/28/12 17:10	4.11E+02	02/22/12 13:12	YES
11	U-235	TRG	JM-55-31-120128	pCi/g	4.26E+00	3.08E+00	2.79E+00					01/28/12 17:10	4.11E+02	02/22/12 13:12	YES
12	AC-228	TRG	JM-82-31-120128	pCi/g	1.08E+00	1.59E+00	2.77E+00					01/28/12 16:45	4.16E+02	02/22/12 13:25	NO
12	BI-214	TRG	JM-82-31-120128	pCi/g	1.20E+02	7.43E+00	1.23E+00					01/28/12 16:45	4.16E+02	02/22/12 13:25	YES
12	K-40	TRG	JM-82-31-120128	pCi/g	2.33E+01	7.81E+00	7.18E+00					01/28/12 16:45	4.16E+02	02/22/12 13:25	YES
12	PA-234M	TRG	JM-82-31-120128	pCi/g	6.98E+01	6.85E+01	7.53E+01					01/28/12 16:45	4.16E+02	02/22/12 13:25	YES
12	PB-212	TRG	JM-82-31-120128	pCi/g	1.04E+01	1.32E+00	1.47E+00					01/28/12 16:45	4.16E+02	02/22/12 13:25	NO
12	PB-214	TRG	JM-82-31-120128	pCi/g	1.21E+02	9.97E+00	1.42E+00					01/28/12 16:45	4.16E+02	02/22/12 13:25	YES
12	RA-226	TRG	JM-82-31-120128	pCi/g	1.20E+02	7.43E+00	1.23E+00					01/28/12 16:45	4.16E+02	02/22/12 13:25	YES
12	TH-234	TRG	JM-82-31-120128	pCi/g	3.65E+01	1.04E+01	1.34E+01					01/28/12 16:45	4.16E+02	02/22/12 13:25	YES
12	TL-208	TRG	JM-82-31-120128	pCi/g	1.98E+00	1.37E+00	2.03E+00					01/28/12 16:45	4.16E+02	02/22/12 13:25	NO
12	U-235	TRG	JM-82-31-120128	pCi/g	5.06E+00	3.16E+00	4.66E+00					01/28/12 16:45	4.16E+02	02/22/12 13:25	NO
13	AC-228	TRG	JM-84-31-120128	pCi/g	1.63E+00	3.62E-01	4.40E-01					01/28/12 16:38	4.64E+02	02/22/12 13:38	YES
13	BI-214	TRG	JM-84-31-120128	pCi/g	1.30E+01	8.59E-01	2.21E-01					01/28/12 16:38	4.64E+02	02/22/12 13:38	YES
13	K-40	TRG	JM-84-31-120128	pCi/g	2.02E+01	2.70E+00	1.11E+00					01/28/12 16:38	4.64E+02	02/22/12 13:38	YES

Preliminary Data Report & Analytical Calculations
Work Order: 12-01163-Gamma-1

Lab Fraction	Nuclide	Sample Desc	Client Identification	Activity Units	Results	Error Estimate	MDA	LSC Known	LCS %R	LCS Flag	RPD Flag	Sample Date	Sample Aliquot	Counting Date/Time	Identified
13	PA-234M	TRG	JM-84-31-120128	pCi/g	1.98E+01	1.33E+01	1.42E+01					01/28/12 16:38	4.64E+02	02/22/12 13:38	YES
13	PB-212	TRG	JM-84-31-120128	pCi/g	1.80E+00	2.51E-01	2.24E-01					01/28/12 16:38	4.64E+02	02/22/12 13:38	YES
13	PB-214	TRG	JM-84-31-120128	pCi/g	1.34E+01	9.56E-01	2.75E-01					01/28/12 16:38	4.64E+02	02/22/12 13:38	YES
13	RA-226	TRG	JM-84-31-120128	pCi/g	1.30E+01	8.59E-01	2.21E-01					01/28/12 16:38	4.64E+02	02/22/12 13:38	YES
13	TH-234	TRG	JM-84-31-120128	pCi/g	1.23E+01	2.54E+00	3.04E+00					01/28/12 16:38	4.64E+02	02/22/12 13:38	YES
13	TL-208	TRG	JM-84-31-120128	pCi/g	1.46E+00	2.71E-01	3.59E-01					01/28/12 16:38	4.64E+02	02/22/12 13:38	YES
13	U-235	TRG	JM-84-31-120128	pCi/g	7.63E-01	6.77E-01	1.03E+00					01/28/12 16:38	4.64E+02	02/22/12 13:38	NO
14	AC-228	TRG	JM-54-31-120128	pCi/g	1.37E+00	1.27E+00	1.72E+00					01/28/12 17:12	3.77E+02	02/22/12 13:40	NO
14	BI-214	TRG	JM-54-31-120128	pCi/g	1.36E+02	7.63E+00	7.47E-01					01/28/12 17:12	3.77E+02	02/22/12 13:40	YES
14	K-40	TRG	JM-54-31-120128	pCi/g	2.53E+01	5.97E+00	4.34E+00					01/28/12 17:12	3.77E+02	02/22/12 13:40	YES
14	PA-234M	TRG	JM-54-31-120128	pCi/g	3.59E+01	2.93E+01	5.08E+01					01/28/12 17:12	3.77E+02	02/22/12 13:40	NO
14	PB-212	TRG	JM-54-31-120128	pCi/g	1.23E+00	6.42E-01	6.86E-01					01/28/12 17:12	3.77E+02	02/22/12 13:40	YES
14	PB-214	TRG	JM-54-31-120128	pCi/g	1.39E+02	3.24E+01	8.70E-01					01/28/12 17:12	3.77E+02	02/22/12 13:40	YES
14	RA-226	TRG	JM-54-31-120128	pCi/g	1.36E+02	7.63E+00	7.47E-01					01/28/12 17:12	3.77E+02	02/22/12 13:40	YES
14	TH-234	TRG	JM-54-31-120128	pCi/g	2.35E+01	7.93E+00	8.47E+00					01/28/12 17:12	3.77E+02	02/22/12 13:40	YES
14	TL-208	TRG	JM-54-31-120128	pCi/g	5.92E-01	7.09E-01	1.25E+00					01/28/12 17:12	3.77E+02	02/22/12 13:40	NO
14	U-235	TRG	JM-54-31-120128	pCi/g	4.53E+00	2.50E+00	2.97E+00					01/28/12 17:12	3.77E+02	02/22/12 13:40	NO
15	AC-228	TRG	JMBKGD-NW-31-120128	pCi/g	1.67E+00	3.53E-01	3.90E-01					01/28/12 09:10	3.45E+02	02/22/12 14:13	YES
15	BI-214	TRG	JMBKGD-NW-31-120128	pCi/g	2.74E+00	3.31E-01	2.19E-01					01/28/12 09:10	3.45E+02	02/22/12 14:13	YES
15	K-40	TRG	JMBKGD-NW-31-120128	pCi/g	2.77E+01	3.83E+00	8.89E-01					01/28/12 09:10	3.45E+02	02/22/12 14:13	YES
15	PA-234M	TRG	JMBKGD-NW-31-120128	pCi/g	5.25E+00	7.92E+00	1.48E+01					01/28/12 09:10	3.45E+02	02/22/12 14:13	NO
15	PB-212	TRG	JMBKGD-NW-31-120128	pCi/g	2.11E+00	2.68E-01	4.00E-01					01/28/12 09:10	3.45E+02	02/22/12 14:13	NO
15	PB-214	TRG	JMBKGD-NW-31-120128	pCi/g	2.93E+00	2.95E-01	2.17E-01					01/28/12 09:10	3.45E+02	02/22/12 14:13	YES
15	RA-226	TRG	JMBKGD-NW-31-120128	pCi/g	2.74E+00	3.31E-01	2.19E-01					01/28/12 09:10	3.45E+02	02/22/12 14:13	YES
15	TH-234	TRG	JMBKGD-NW-31-120128	pCi/g	6.09E+00	3.03E+00	2.29E+00					01/28/12 09:10	3.45E+02	02/22/12 14:13	YES
15	TL-208	TRG	JMBKGD-NW-31-120128	pCi/g	1.87E+00	3.69E-01	6.26E-01					01/28/12 09:10	3.45E+02	02/22/12 14:13	NO
15	U-235	TRG	JMBKGD-NW-31-120128	pCi/g	1.77E-01	4.28E-01	7.26E-01					01/28/12 09:10	3.45E+02	02/22/12 14:13	NO
16	AC-228	TRG	JMBKGD-NE-31-120128	pCi/g	1.41E+00	5.16E-01	7.59E-01					01/28/12 09:41	3.69E+02	02/22/12 14:26	YES
16	BI-214	TRG	JMBKGD-NE-31-120128	pCi/g	2.64E+00	5.22E-01	3.71E-01					01/28/12 09:41	3.69E+02	02/22/12 14:26	YES
16	K-40	TRG	JMBKGD-NE-31-120128	pCi/g	1.61E+01	3.58E+00	2.11E+00					01/28/12 09:41	3.69E+02	02/22/12 14:26	YES
16	PA-234M	TRG	JMBKGD-NE-31-120128	pCi/g	5.52E+00	1.21E+01	2.36E+01					01/28/12 09:41	3.69E+02	02/22/12 14:26	NO
16	PB-212	TRG	JMBKGD-NE-31-120128	pCi/g	1.05E+00	2.42E-01	4.31E-01					01/28/12 09:41	3.69E+02	02/22/12 14:26	NO
16	PB-214	TRG	JMBKGD-NE-31-120128	pCi/g	2.41E+00	4.80E-01	3.64E-01					01/28/12 09:41	3.69E+02	02/22/12 14:26	YES
16	RA-226	TRG	JMBKGD-NE-31-120128	pCi/g	2.64E+00	5.22E-01	3.71E-01					01/28/12 09:41	3.69E+02	02/22/12 14:26	YES
16	TH-234	TRG	JMBKGD-NE-31-120128	pCi/g	2.70E+00	2.66E+00	3.09E+00					01/28/12 09:41	3.69E+02	02/22/12 14:26	YES
16	TL-208	TRG	JMBKGD-NE-31-120128	pCi/g	4.48E-01	3.69E-01	6.89E-01					01/28/12 09:41	3.69E+02	02/22/12 14:26	NO
16	U-235	TRG	JMBKGD-NE-31-120128	pCi/g	4.53E-02	6.19E-01	1.05E+00					01/28/12 09:41	3.69E+02	02/22/12 14:26	NO

Count Room Report **12-01163-Gamma-1 (pCi/g) in SO**
Client: Weston Solutions, Inc. **Tracer ID:**

solid

Internal Fraction	Sample Desc	Client ID	Sample Date	Sample Aliquot	Tracer Aliquot (g)	Tracer ACT (dpm)	Radiometric Tracer (pCi)	Radiometric % Rec	SAF 1*	SAF 2*
01	LCS	LCS	01/31/12 00:00	1.0000				0.00		
02	MBL	BLANK	01/31/12 00:00	1.0000				0.00		
GEL 03	DUP	JM-70-32-120128	01/28/12 17:00	579.9900				0.00		
04	DO	JM-70-32-120128	01/28/12 17:00	579.9900				0.00		
05	TRG	JM-70-31-120128	01/28/12 17:00	621.0100				0.00		
06	TRG	JM-88-31-120128	01/28/12 16:34	407.1000				0.00		
07	TRG	JM-77-31-120128	01/28/12 16:55	554.6300				0.00		
08	TRG	JM-65-31-120128	01/28/12 17:02	442.2600				0.00		
09	TRG	JM-66-31-120128	01/28/12 17:05	587.9300				0.00		
10	TRG	JM-73-31-120128	01/28/12 16:57	533.0100				0.00		
11	TRG	JM-55-31-120128	01/28/12 17:10	410.8900				0.00		
12	TRG	JM-82-31-120128	01/28/12 16:45	416.3800				0.00		
13	TRG	JM-84-31-120128	01/28/12 16:38	463.6400				0.00		
14	TRG	JM-54-31-120128	01/28/12 17:12	376.8100				0.00		
15	TRG	JMBKGD-NW-31-120128	01/28/12 09:10	345.2500				0.00		
16	TRG	JMBKGD-NE-31-120128	01/28/12 09:41	369.0000				0.00		

0039

Eberline Analytical
Oak Ridge Laboratory

Aliquot Worksheet

Work Order	Run	Analysis Code	Rpt Units	Lab Deadline	Technician
12-01163	1	Gamma	grams	2/21/2012	KSALLINGS

Lab Fraction	Weston Solutions, Inc. Client ID	Sample Type	Muffle Data Ratio Post/Pre	Dilution Data No of Dils	Dilution Data Dil Factor	Dilution Data Ratio	Aliquot Data Aliquot	Aliquot Data Net Equiv	MS Aliquot Data Aliquot	MS Aliquot Data Net Equiv	H-3 Solids Only Water Added (ml)	H-3 Solids Only H3 Dist Aliq
01	LCS	LCS					1.0000E+00	1.0000E+00				
02	BLANK	MBL					1.0000E+00	1.0000E+00				
03	JM-70-32-120128	DUP					5.7999E+02	5.7999E+02				
04	JM-70-32-120128	DO					5.7999E+02	5.7999E+02				
05	JM-70-31-120128	TRG					6.2101E+02	6.2101E+02				
06	JM-88-31-120128	TRG					4.0710E+02	4.0710E+02				
07	JM-77-31-120128	TRG					5.5463E+02	5.5463E+02				
08	JM-65-31-120128	TRG					4.4226E+02	4.4226E+02				
09	JM-66-31-120128	TRG					5.8793E+02	5.8793E+02				
10	JM-73-31-120128	TRG					5.3301E+02	5.3301E+02				
11	JM-55-31-120128	TRG					4.1089E+02	4.1089E+02				
12	JM-82-31-120128	TRG					4.1638E+02	4.1638E+02				
13	JM-84-31-120128	TRG					4.6364E+02	4.6364E+02				
14	JM-54-31-120128	TRG					3.7681E+02	3.7681E+02				
15	JMBKGD-NW-31-120128	TRG					3.4525E+02	3.4525E+02				
16	JMBKGD-NE-31-120128	TRG					3.6900E+02	3.6900E+02				

Comments	

Technician: Kerry Salling Date: 2/1/12

Eberline Services - Oak Ridge
Prep Logbook
Version 2.0 8/1999

Rough Sample Preparation Log Book

Work Order	Lab Deadline	Date Received in Prep	Date Sealed	Date Returned	Technician
12-01163	2/21/2012	1/31/2012	2/1/2012	2/2/2012	KSALLINGS

Eberline	Weston Solutions, Inc.	Tare (g)	Gross (g)		Net (g)		Percent		Gamma		Special Info
Fraction	Client ID	Pan Wt	Wet Wt.	Dry Wt.	Wet Wt.	Dry Wt.	Liquid	Solid	Dry Wt.	LEPS Wt.	
04	JM-70-32-120128	13.9700	757.5700	631.3000	743.6000	617.3300	16.98%	83.02%			
05	JM-70-31-120128	13.9100	772.3000	649.9700	758.3900	636.0600	16.13%	83.87%			
06	JM-88-31-120128	13.9800	517.0000	439.4700	503.0200	425.4900	15.41%	84.59%			
07	JM-77-31-120128	13.9900	738.4400	591.2900	724.4500	577.3000	20.31%	79.69%			
08	JM-65-31-120128	13.9800	540.9800	475.5900	527.0000	461.6100	12.41%	87.59%			
09	JM-66-31-120128	13.9800	796.6400	664.7800	782.6600	650.8000	16.85%	83.15%			
10	JM-73-31-120128	13.9700	684.4000	608.0800	670.4300	594.1100	11.38%	88.62%			
11	JM-55-31-120128	14.0200	463.0600	429.1300	449.0400	415.1100	7.56%	92.44%			
12	JM-82-31-120128	14.1100	485.7900	441.4600	471.6800	427.3500	9.40%	90.60%			
13	JM-84-31-120128	14.0600	664.5800	491.3400	650.5200	477.2800	26.63%	73.37%			
14	JM-54-31-120128	14.0100	447.3400	396.1600	433.3300	382.1500	11.81%	88.19%			
15	JMBKGD-NW-31-120128	14.0800	394.9900	363.6700	380.9100	349.5900	8.22%	91.78%			
16	JMBKGD-NE-31-120128	14.1800	437.8700	390.6400	423.6900	376.4600	11.15%	88.85%			

Comments	
Special Codes	**H: Hot, O: Organic Hazard, P: PCB Hazard, R: Rush, T: Other (see comments)**

Technician: Kenny Sally Date:**Analysis: Rough Prep Logbook** **Analysis: Gamma Page No. 7991**

Sample ID : 1201163-01 Acquisition date : 22-FEB-2012 09:50:01

VAX/VMS Peak Search Report Generated 22-FEB-2012 10:20:39.89

Configuration : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116301_GE1_GAS1102_176232.
Analyses by : PEAK V16.9 ENBACK V1.6 PEAKEFF V2.2
Client ID : GAS-1002
Deposition Date :
Sample Date : 1-JAN-2010 00:00:00. Acquisition date : 22-FEB-2012 09:50:01
Sample ID : 1201163-01 Sample Quantity : 7.36000E+02 GRAM
Sample type : SOLID Sample Geometry : 0
Detector name : GE1 Detector Geometry: GAS-1102
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:26.07 1.4%
Start channel : 5 End channel : 4096
Sensitivity : 2.40000 Gaussian : 15.00000
Critical level : Yes

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	32.22	1476	6695	1.30	31.85	30	6	18.3		
2	50.66	5290	10285	1.66	50.29	45	21	7.1	1.10E+03	
2	59.66	83093	10165	1.68	59.29	45	21	0.8		AM-241
9	86.23	1641	10511	3.14	85.87	83	9	20.6	6.32E+00	NP-237
9	88.43	42178	7097	1.35	88.06	83	9	1.1		SN-126
										CD-109
0	107.90	329	5635	3.52	107.54	105	6	73.1		
0	122.45	9535	7859	1.31	122.09	118	8	3.8		CO-57
0	137.03	1241	6508	1.93	136.68	133	8	23.2		CO-57
0	166.22	1583	6054	1.33	165.87	162	8	17.8		CE-139
0	211.65	155	3843	1.46	211.31	209	5	120.6		
0	239.71*	273	4292	1.54	239.37	237	6	76.9		PB-212
										RA-224
0	311.88	233	2904	3.81	311.56	309	6	74.3		
0	392.25	651	3598	1.64	391.94	388	8	32.9		SN-113
0	437.95	159	3242	1.59	437.66	435	7	119.5		
0	446.32	159	2864	5.18	446.02	444	6	107.3		
0	511.86*	128	1965	1.89	511.58	509	6	111.7		
0	535.44*	140	2062	1.71	535.17	532	7	108.8		
4	662.11	29214	1331	1.73	661.86	656	14	1.2	7.26E+00	CS-137
4	665.48	900	2008	2.72	665.24	656	14	42.0		
0	770.84	194	1438	2.13	770.62	768	7	66.3		
0	898.84	676	3226	2.10	898.64	894	11	33.4		Y-88
3	1173.76*	27206	601	2.02	1173.62	1167	23	1.3	4.87E+00	CO-60
3	1177.44	918	715	2.80	1177.30	1167	23	36.7		
0	1302.23	66	168	3.87	1302.11	1299	7	69.1		
2	1333.03	24931	183	2.13	1332.93	1327	17	1.3	6.72E+00	CO-60
2	1336.82	714	170	2.36	1336.72	1327	17	38.3		
0	1384.81	32	107	2.84	1384.71	1381	8	117.8		
0	1454.96	22	55	2.45	1454.88	1453	5	113.5		
0	1658.64	25	47	2.83	1658.60	1655	7	98.7		
0	1720.52	20	28	2.45	1720.49	1718	6	95.3		
0	1836.51	379	75	2.70	1836.51	1829	15	14.3		Y-88
1	1851.00	15	4	2.34	1851.00	1850	11	32.9	3.16E+00	
1	1856.00	22	28	2.34	1856.00	1850	11	91.7		
0	1913.72	25	51	4.66	1913.73	1909	10	114.8		

AG
2/23/12

Sample ID : 1201163-01 Acquisition date : 22-FEB-2012 09:50:01

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	1955.05	15	28	2.98	1955.07	1953	6	124.0		
4	2036.07	24	43	3.51	2036.11	2031	12	117.1	1.43E+00	
4	2039.91	14	16	2.57	2039.95	2031	12	124.3		
0	2110.79	16	31	2.03	2110.84	2107	7	125.8		
0	2130.56	26	33	3.46	2130.62	2126	11	94.1		
0	2141.18	16	21	1.22	2141.25	2137	9	120.5		
0	2152.59	29	27	2.81	2152.66	2147	9	74.5		
5	2201.93	14	19	2.45	2202.00	2198	15	125.2	2.27E+00	
5	2208.04	17	32	3.94	2208.11	2198	15	138.8		
0	2358.95	10	8	1.69	2359.05	2357	5	102.9		
0	2506.15	399	20	2.36	2506.29	2500	13	11.0		
0	2615.15*	30	2	2.90	2615.31	2611	10	42.4		
0	2734.19	8	0	3.31	2734.38	2731	7	70.7		

Sample ID : 1201163-01 Acquisition date : 22-FEB-2012 09:50:01

Total number of lines in spectrum 47
Number of unidentified lines 27
Number of lines tentatively identified by NID 20 42.55%

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-57	270.90D	7.40	8.366E+00	6.194E+01	0.634E+01	10.23	
Y-88	106.60D	162.	1.836E+00	2.975E+02	0.451E+02	15.17	
CD-109	464.00D	3.22	7.891E+02	2.540E+03	0.314E+03	12.35	
SN-113	115.10D	111.	1.450E+00	1.613E+02	0.553E+02	34.26	
SN-126	1.00E+05Y	1.00	7.931E+01	7.931E+01	0.855E+01	10.77	
CS-137	30.17Y	1.05	7.543E+01	7.923E+01	0.812E+01	10.25	
CE-139	137.66D	51.4	1.643E+00	8.447E+01	1.680E+01	19.89	
NP-237	2.14E+06Y	1.00	9.051E+00	9.051E+00	2.098E+00	23.19	
			---------	---------			
	Total Activity :		9.662E+02	3.312E+03			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.33	9.448E+01	1.252E+02	0.081E+02	6.49	
			---------	---------			
	Total Activity :		9.448E+01	1.252E+02			

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
PB-212	1.41E+10Y	1.00	6.245E-01	6.245E-01	4.838E-01	77.47	
RA-224	1.41E+10Y	1.00	7.095E+00	7.095E+00	5.496E+00	77.47	
AM-241	432.20Y	1.00	1.658E+02	1.664E+02	0.136E+02	8.18	
			---------	---------			
	Total Activity :		1.735E+02	1.741E+02			

Grand Total Activity : 1.234E+03 3.612E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : 1201163-01 Acquisition date : 22-FEB-2012 09:50:01

Nuclide Type: FISSION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
CO-57	122.06	85.51*	2.753E+00	8.263E+00	6.118E+01	11.16	OK
	136.48	10.60	2.653E+00	9.005E+00	6.667E+01	25.51	OK
	Final Mean for 2 Valid Peaks = 6.194E+01+/- 6.335E+00 (10.23%)						
Y-88	898.02	93.40	7.253E-01	2.035E+00	3.297E+02	34.59	OK
	1836.01	99.38*	4.323E-01	1.800E+00	2.915E+02	16.85	OK
	Final Mean for 2 Valid Peaks = 2.975E+02+/- 4.512E+01 (15.17%)						
CD-109	88.03	3.72*	2.931E+00	7.891E+02	2.540E+03	12.35	OK
	Final Mean for 1 Valid Peaks = 2.540E+03+/- 3.135E+02 (12.35%)						
SN-113	255.12	1.93	1.916E+00	-----	Line Not Found	-----	Absent
	391.69	64.90*	1.411E+00	1.450E+00	1.613E+02	34.26	OK
	Final Mean for 1 Valid Peaks = 1.613E+02+/- 5.527E+01 (34.26%)						
SN-126	87.57	37.00*	2.932E+00	7.931E+01	7.931E+01	10.77	OK
	Final Mean for 1 Valid Peaks = 7.931E+01+/- 8.545E+00 (10.77%)						
CS-137	661.65	85.12*	9.283E-01	7.543E+01	7.923E+01	10.25	OK
	Final Mean for 1 Valid Peaks = 7.923E+01+/- 8.119E+00 (10.25%)						
CE-139	165.85	80.35*	2.445E+00	1.643E+00	8.447E+01	19.89	OK
	Final Mean for 1 Valid Peaks = 8.447E+01+/- 1.680E+01 (19.89%)						
NP-237	86.50	12.60*	2.935E+00	9.051E+00	9.051E+00	23.19	OK
	Final Mean for 1 Valid Peaks = 9.051E+00+/- 2.098E+00 (23.19%)						

Nuclide Type: ACTIVATION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
CO-60	1173.22	100.00*	5.894E-01	9.417E+01	1.248E+02	9.19	OK
	1332.49	100.00	5.366E-01	9.479E+01	1.256E+02	9.17	OK
	Final Mean for 2 Valid Peaks = 1.252E+02+/- 8.127E+00 (6.49%)						

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
PB-212	238.63	44.60*	2.000E+00	6.245E-01	6.245E-01	77.47	OK
	300.09	3.41	1.716E+00	-----	Line Not Found	-----	Absent

Final Mean for 1 Valid Peaks = 6.245E-01+/- 4.838E-01 (77.47%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
RA-224	240.98	3.95*	1.987E+00	7.095E+00	7.095E+00	77.47	OK

Final Mean for 1 Valid Peaks = 7.095E+00+/- 5.496E+00 (77.47%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
AM-241	59.54	35.90*	2.848E+00	1.658E+02	1.664E+02	8.18	OK

Final Mean for 1 Valid Peaks = 1.664E+02+/- 1.360E+01 (8.18%)

Flag: "*" = Keyline

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-57	6.194E+01	6.335E+00	1.990E+00	1.929E-01	31.124
CO-60	1.252E+02	8.127E+00	5.677E-01	4.642E-02	220.554
Y-88	2.975E+02	4.512E+01	2.802E+01	2.229E+00	10.617
CD-109	2.540E+03	3.135E+02	2.456E+01	2.855E+00	103.403
SN-113	1.613E+02	5.527E+01	5.541E+01	4.894E+00	2.912
SN-126	7.931E+01	8.545E+00	7.668E-01	7.622E-02	103.427
CS-137	7.923E+01	8.119E+00	4.838E-01	4.525E-02	163.769
CE-139	8.447E+01	1.680E+01	1.475E+01	1.184E+00	5.725
PB-212	6.245E-01	4.838E-01	6.306E-01	5.164E-02	0.990
RA-224	7.095E+00	5.496E+00	7.043E+00	5.767E-01	1.007
NP-237	9.051E+00	2.098E+00	2.249E+00	2.207E-01	4.025
AM-241	1.664E+02	1.360E+01	8.589E-01	6.083E-02	193.736

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-22	-1.834E-02		2.675E-01	4.483E-01	3.669E-02	-0.041
AL-26	-2.271E-02		9.651E-02	1.611E-01	1.287E-02	-0.141
K-40	2.803E-01		1.225E+00	1.910E+00	1.619E-01	0.147
TI-44	1.500E-01		2.227E-01	3.376E-01	2.645E-02	0.444
MN-54	3.620E-01		1.657E+00	2.789E+00	2.368E-01	0.130
ZN-65	3.277E+00		6.425E+00	1.071E+01	8.787E-01	0.306
SE-75	-2.233E+01		2.742E+01	4.266E+01	3.510E+00	-0.524
KR-85	4.102E+01		6.116E+01	9.524E+01	8.577E+00	0.431
NB-93M	-1.471E+02		3.350E+01	4.502E-01	1.002E-01	-326.856
NB-94	-2.605E-03		3.123E-01	5.224E-01	4.270E-02	-0.005
RU-106	-4.931E+00		9.757E+00	1.641E+01	2.272E+00	-0.301
AG-108M	-2.125E-01		2.636E-01	4.374E-01	4.005E-02	-0.486
AG-110M	1.301E+01		3.033E+00	4.544E+00	4.243E-01	2.864
TE123M	-3.024E+00		1.681E+01	2.479E+01	2.061E+00	-0.122
SB-125	5.501E-01		1.217E+00	2.104E+00	1.851E-01	0.261
I-129	-8.262E+01		9.335E+00	6.056E-01	6.358E-02	-136.434
BA-133	-2.372E-01		3.469E-01	5.931E-01	7.698E-02	-0.400
CS-134	-4.689E-01		4.600E-01	7.652E-01	7.131E-02	-0.613
CS-135	7.760E-02		1.102E+00	1.742E+00	1.418E-01	0.045
LA-138	2.512E-02		1.752E-01	3.004E-01	2.469E-02	0.084
CE-144	-5.760E+00		9.178E+00	1.349E+01	1.246E+00	-0.427
PM-144	3.458E-01		1.030E+00	1.753E+00	2.590E-01	0.197
PM-145	-1.493E+00		1.355E+00	1.410E+00	9.198E-01	-1.058
PM-146	2.508E-01		8.242E-01	1.279E+00	1.111E-01	0.196
EU-152	-2.146E-01		8.903E-01	1.484E+00	1.572E-01	-0.145
GD-153	-1.380E+00		6.196E+00	9.246E+00	9.047E-01	-0.149
EU-154	-3.896E-02		5.037E-01	8.435E-01	6.903E-02	-0.046
EU-155	4.979E+00	+	1.154E+00	2.761E+00	2.710E-01	1.803
HO-166M	1.933E-02		4.335E-01	7.341E-01	6.754E-02	0.026
HF-172	1.189E+01		3.273E+00	4.762E+00	4.530E-01	2.497
LU-173	-1.311E-01		2.459E+00	3.877E+00	3.150E-01	-0.034

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
LU-176	-1.013E-01		2.112E-01	3.018E-01	2.476E-02	-0.336
TA-182	-3.814E+01		1.075E+02	1.765E+02	1.445E+01	-0.216
BI-207	-6.986E-02		2.228E-01	3.780E-01	3.483E-02	-0.185
TL-208	4.213E-01		7.031E-01	1.209E+00	1.118E-01	0.349
BI-210M	-2.270E-02		3.916E-01	6.180E-01	5.041E-02	-0.037
PB-210	6.492E+01		7.949E+00	9.414E+00	7.266E-01	6.896
PB-211	5.666E+00		6.790E+00	1.180E+01	9.811E-01	0.480
BI-212	1.509E-01		2.015E+00	3.410E+00	3.117E-01	0.044
BI-214	2.145E-01		4.743E-01	8.132E-01	7.563E-02	0.264
PB-214	-8.224E-02		4.825E-01	8.344E-01	6.901E-02	-0.099
RN-219	4.811E-01		2.990E+00	5.168E+00	4.284E-01	0.093
RA-223	4.721E+00		4.810E+00	7.637E+00	6.298E-01	0.618
RA-226	2.283E+00		6.350E+00	7.691E+00	1.408E+01	0.297
TH-227	-9.041E-01		1.692E+00	2.442E+00	1.999E-01	-0.370
AC-228	8.398E-01		1.268E+00	2.132E+00	1.695E-01	0.394
TH-230	3.064E+01		5.540E+01	8.396E+01	6.561E+00	0.365
PA-231	2.108E+00		7.902E+00	1.247E+01	1.022E+00	0.169
TH-231	-4.789E+02		6.196E+01	8.995E+00	1.099E+00	-53.243
PA-234	-4.129E-01		7.211E-01	1.061E+00	9.898E-02	-0.389
PA-234M	1.321E+00		3.727E+01	6.196E+01	5.022E+00	0.021
TH-234	4.377E+01		6.392E+00	9.061E+00	6.714E-01	4.830
U-235	-1.625E-01		1.418E+00	2.100E+00	3.703E-01	-0.077
AM-243	-2.383E-01		2.863E-01	4.621E-01	3.933E-02	-0.516
CM-243	6.106E-01		1.344E+00	2.132E+00	1.728E-01	0.286

Summary of Nuclide Activity
Sample ID : 1201163-01 Acquisition date : 22-FEB-2012 09:50:01

Total number of lines in spectrum	47	
Number of unidentified lines	27	
Number of lines tentatively identified by NID	20	42.55%

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-57	270.90D	7.40	8.366E+00	6.194E+01	0.634E+01	10.23	
Y-88	106.60D	162.	1.836E+00	2.975E+02	0.451E+02	15.17	
CD-109	464.00D	3.22	7.891E+02	2.540E+03	0.314E+03	12.35	
SN-113	115.10D	111.	1.450E+00	1.613E+02	0.553E+02	34.26	
SN-126	1.00E+05Y	1.00	7.931E+01	7.931E+01	0.855E+01	10.77	
CS-137	30.17Y	1.05	7.543E+01	7.923E+01	0.812E+01	10.25	
CE-139	137.66D	51.4	1.643E+00	8.447E+01	1.680E+01	19.89	
NP-237	2.14E+06Y	1.00	9.051E+00	9.051E+00	2.098E+00	23.19	
			---------	---------			
	Total Activity :		9.662E+02	3.312E+03			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.33	9.448E+01	1.252E+02	0.081E+02	6.49	
			---------	---------			
	Total Activity :		9.448E+01	1.252E+02			

Nuclide Type : NATURAL

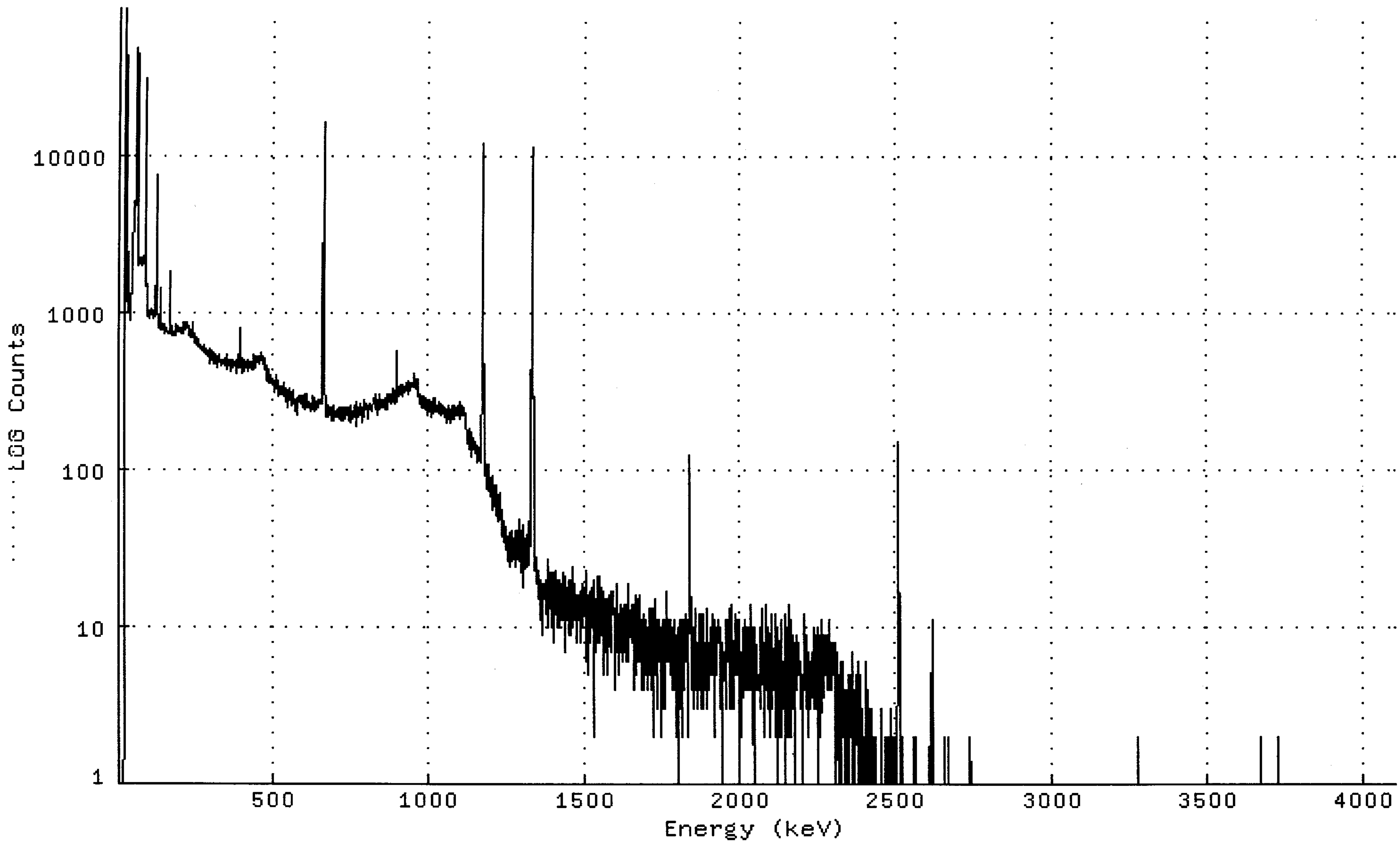
Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
PB-212	1.41E+10Y	1.00	6.245E-01	6.245E-01	4.838E-01	77.47	
RA-224	1.41E+10Y	1.00	7.095E+00	7.095E+00	5.496E+00	77.47	
AM-241	432.20Y	1.00	1.658E+02	1.664E+02	0.136E+02	8.18	
			---------	---------			
	Total Activity :		1.735E+02	1.741E+02			

Grand Total Activity : 1.234E+03 3.612E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Spectrum : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116301_GE1_GAS1102_176232.CNF;1
Title :
Sample Title: GAS-1002

Start Time: 22-FEB-2012 09:50	Sample Time: 1-JAN-2010 00:00:	Energy Offset: 3.84457E-01
Real Time : 0 00:30:26.07	Sample ID : 1201163-01	Energy Slope : 9.99792E-01
Live Time : 0 00:30:00.00	Sample Type: SOLID	Energy Quad : 0.00000E+00



Channel Contents for DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116301_GE1_GAS1102_1762

Channel

1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	2	12	1593	4171	20888	87608	21140	10726
25:	27626	8145	2157	1178	1247	1061	1259	2381
33:	1530	1050	890	1292	1207	1087	1124	1187
41:	1337	1493	1788	1982	2143	2334	2754	3637
49:	4683	5085	4652	4766	4681	4844	4899	5437
57:	6120	8301	47396	40138	3628	2366	2541	2490
65:	1949	2086	2210	2201	2112	2175	2039	2179
73:	1994	2148	2084	2057	2180	2126	2031	2014
81:	2087	2186	2233	2417	2396	2641	7587	30991
89:	9120	1477	1338	1500	1289	1016	973	936
97:	900	972	1010	978	971	989	976	965
105:	962	1018	1035	1025	982	942	902	1017
113:	980	928	925	985	1029	954	983	1100
121:	1968	7470	2999	973	947	1001	928	802
129:	857	837	820	828	780	806	839	1391
137:	1400	854	841	838	804	768	839	783
145:	779	836	823	733	730	773	736	768
153:	746	775	742	759	786	729	742	740
161:	740	751	742	752	1094	1835	938	799
169:	726	806	738	751	760	703	713	720
177:	741	736	737	717	736	740	714	773
185:	832	772	786	813	822	803	798	807
193:	754	775	763	759	762	739	789	768
201:	740	795	799	796	766	722	751	744
209:	735	792	864	804	803	774	852	823
217:	800	837	817	869	830	852	793	792
225:	817	807	791	767	804	709	760	749
233:	774	723	696	739	704	798	865	719
241:	762	728	694	722	666	737	647	669
249:	635	654	627	623	629	649	696	623
257:	613	671	606	651	645	577	583	624
265:	582	601	599	590	603	589	572	598
273:	571	568	596	546	614	601	580	563
281:	580	565	580	549	559	541	531	566
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297:	550	517	569	569	527	549	503	493
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313:	537	490	463	528	503	494	500	446
321:	528	472	484	532	511	515	474	479
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345:	470	479	486	492	474	483	473	540
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369:	487	446	481	469	458	453	462	468
377:	479	449	482	478	432	407	453	492
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393:	546	471	475	443	425	436	421	434
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409:	453	440	464	484	446	480	461	439
417:	421	473	500	453	463	480	451	445
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465:	511	462	518	476	481	525	450	513
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593:	274	291	260	248	260	253	266	299
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609:	287	303	261	268	248	264	264	258
617:	269	261	239	236	256	260	261	250
625:	284	251	240	249	238	293	254	233
633:	269	258	251	281	263	259	247	262
641:	272	238	280	250	247	279	256	258
649:	268	269	270	280	270	263	303	259
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665:	505	518	366	238	245	247	223	217
673:	251	244	218	231	252	255	225	236
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697:	205	228	234	231	215	216	229	241
705:	242	221	236	218	238	231	225	242
713:	209	218	223	249	212	250	222	216
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737:	222	249	240	248	213	238	240	234
745:	205	245	230	201	230	254	197	224
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777:	239	260	224	238	229	229	249	198
785:	229	250	202	225	236	228	215	255
793:	231	240	273	221	246	247	246	241
801:	249	264	249	255	236	211	252	257
809:	259	238	246	247	254	260	247	241
817:	256	250	238	236	281	282	271	261
825:	275	271	275	251	271	263	240	304
833:	261	246	279	274	220	260	268	241
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2001:	7	5	4	6	2	6	8	8
2009:	7	6	10	9	7	6	11	6
2017:	4	10	6	5	4	6	5	5
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2041:	4	3	1	5	10	8	6	10
2049:	6	7	7	6	4	5	5	4
2057:	5	5	5	4	4	10	6	5
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2129:	11	5	9	6	5	2	5	3
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2649:	0	0	1	0	2	1	0	1
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3129:	0	0	0	1	0	0	0	0
3137:	0	0	0	0	0	0	0	1
3145:	0	1	0	0	0	0	0	0
3153:	0	0	0	0	0	0	0	0
3161:	0	0	0	0	0	0	0	0
3169:	0	0	1	0	0	0	0	0
3177:	0	0	0	0	0	0	0	0
3185:	0	0	0	0	0	0	0	0
3193:	0	0	0	0	0	0	0	1
3201:	0	0	0	0	0	1	0	0
3209:	0	0	0	0	0	0	0	1
3217:	1	0	0	0	0	0	0	0
3225:	0	0	1	0	0	1	0	0
3233:	0	1	0	0	0	0	0	0
3241:	0	0	0	0	0	0	0	0
3249:	0	0	0	0	0	0	0	0
3257:	1	0	0	0	0	0	0	0
3265:	0	0	0	0	0	0	0	2
3273:	0	0	1	0	0	0	0	0
3281:	1	0	0	0	0	0	0	0
3289:	0	0	0	0	0	0	0	0
3297:	0	0	0	1	0	0	0	0
3305:	0	0	0	0	1	0	0	0

3313:	0	0	0	0	0	0	0	0
3321:	0	0	0	0	0	0	0	0
3329:	0	0	0	1	0	0	0	0
3337:	0	0	0	0	0	0	0	0
3345:	0	0	0	0	0	0	0	0
3353:	0	0	0	0	0	0	0	0
3361:	0	0	0	0	0	0	0	0
3369:	0	0	0	0	1	0	0	0
3377:	1	0	0	0	0	0	0	0
3385:	0	0	0	0	0	0	0	0
3393:	0	0	1	0	0	0	0	0
3401:	0	0	0	0	0	0	1	0
3409:	0	0	0	0	0	0	0	0
3417:	1	0	0	0	1	0	0	0
3425:	0	0	0	0	1	0	0	0
3433:	0	0	0	0	0	0	0	0
3441:	0	0	0	0	0	0	0	0
3449:	0	0	0	0	0	0	0	0
3457:	0	0	0	0	0	0	0	0
3465:	1	0	0	0	0	0	0	0
3473:	0	0	0	0	0	0	0	0
3481:	0	0	0	0	0	0	0	0
3489:	0	0	0	0	0	0	1	1
3497:	0	0	0	0	0	0	0	0
3505:	0	0	0	0	0	0	0	0
3513:	0	0	0	0	0	0	0	0
3521:	1	0	0	0	0	0	0	1
3529:	0	0	0	0	0	0	0	0
3537:	0	0	0	0	1	0	0	1
3545:	0	0	0	0	0	0	0	0
3553:	0	0	1	0	0	1	0	0
3561:	0	0	0	0	0	0	0	0
3569:	0	0	0	0	0	0	0	0
3577:	0	0	0	0	0	0	0	0
3585:	0	0	0	0	0	0	0	0
3593:	0	1	0	0	0	0	0	0
3601:	0	0	0	0	0	0	0	0
3609:	0	0	0	0	0	0	0	0
3617:	0	0	0	0	0	0	0	0
3625:	0	0	0	0	1	0	0	1
3633:	0	1	0	0	0	0	0	0
3641:	0	0	0	0	0	0	0	0
3649:	0	0	0	0	0	1	0	0
3657:	0	1	0	0	0	0	0	0
3665:	1	1	0	2	0	0	0	0
3673:	0	0	0	1	0	0	0	0
3681:	0	0	0	0	0	0	1	0
3689:	1	0	0	0	0	0	0	0
3697:	0	0	0	0	0	0	0	0
3705:	0	0	0	0	0	0	0	0
3713:	0	0	0	0	0	0	0	2
3721:	0	0	0	0	0	1	0	0
3729:	0	0	0	0	0	0	0	0
3737:	0	0	0	0	0	0	0	0
3745:	0	0	0	0	0	0	0	1
3753:	1	0	0	0	0	0	0	0
3761:	0	0	1	0	0	0	1	0
3769:	0	1	1	0	0	0	0	0
3777:	0	0	0	0	0	0	0	0
3785:	0	0	0	0	0	1	0	0

3793:	0	0	0	0	0	0	0	0
3801:	1	0	0	0	0	0	0	0
3809:	0	0	0	0	0	0	0	0
3817:	0	0	0	0	0	0	1	0
3825:	0	0	0	0	0	1	0	0
3833:	0	0	0	1	0	0	0	0
3841:	0	0	0	0	0	0	0	0
3849:	0	0	0	0	0	0	0	0
3857:	0	1	0	0	0	0	0	0
3865:	0	0	0	0	0	0	0	0
3873:	0	0	0	0	0	0	0	0
3881:	0	0	1	0	0	0	0	0
3889:	0	0	0	0	0	0	0	0
3897:	0	0	0	0	0	0	0	0
3905:	0	0	0	0	0	0	0	0
3913:	0	0	0	0	1	0	0	0
3921:	0	0	0	0	0	0	0	0
3929:	0	0	0	0	0	0	0	0
3937:	0	0	0	0	0	0	0	0
3945:	0	0	0	0	0	1	0	0
3953:	0	0	0	0	0	0	0	0
3961:	0	0	0	0	0	0	0	0
3969:	0	0	0	0	0	0	0	0
3977:	0	0	0	0	0	0	0	0
3985:	0	0	0	0	0	0	0	0
3993:	0	0	0	0	0	0	0	0
4001:	0	0	0	0	0	1	0	0
4009:	0	0	0	0	0	0	0	0
4017:	0	0	0	0	0	0	0	0
4025:	0	0	0	0	0	0	0	0
4033:	0	0	0	0	0	0	0	0
4041:	1	0	0	0	0	1	0	0
4049:	0	0	0	0	0	0	0	0
4057:	0	0	0	0	0	0	0	1
4065:	0	0	0	0	0	0	0	0
4073:	0	0	0	0	0	1	0	0
4081:	0	0	0	0	0	0	0	0
4089:	0	0	0	0	0	0	0	0

KB 2/22/12

Sample ID : 1201163-02 Acquisition date : 22-FEB-2012 10:04:24

VAX/VMS Peak Search Report Generated 22-FEB-2012 11:04:46.26

Configuration	: DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116302_GE2_GAS1102_176233.		
Analyses by	: PEAK V16.9 ENBACK V1.6 PEAKEFF V2.2		
Client ID	: BLANK		
Deposition Date	:		
Sample Date	: 22-FEB-2012 00:00:00	Acquisition date	: 22-FEB-2012 10:04:24
Sample ID	: 1201163-02	Sample Quantity	: 7.83400E+02 GRAM
Sample type	: SOLID	Sample Geometry	: 0
Detector name	: GE2	Detector Geometry	: GAS-1102
Elapsed live time	: 0 01:00:00.00	Elapsed real time	: 0 01:00:00.54 0.0%
Start channel	: 5	End channel	: 4096
Sensitivity	: 2.40000	Gaussian	: 15.00000
Critical level	: Yes		

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	31.32	383	739	5.40	31.26	26	16	39.4		
3	43.47	24	36	1.66	43.41	42	10	76.4	2.84E+00	
4	58.85	36	75	1.89	58.81	56	12	89.5	2.15E+00	AM-241
4	63.08*	48	84	1.90	63.03	56	12	77.8		TH-234
0	120.59	61	114	5.08	120.57	117	10	69.6		CO-57
0	371.10	20	24	2.02	371.17	369	6	95.3		
0	396.26	18	16	3.01	396.34	394	6	85.9		
0	522.91	14	7	2.26	523.04	521	5	84.8		
0	560.76	18	14	3.46	560.90	557	7	84.1		
0	584.36	12	19	2.88	584.51	581	6	126.5		TL-208
0	642.30	18	5	4.49	642.47	639	7	63.3		
3	749.43	13	4	2.58	749.64	747	10	80.2	2.32E+00	
3	753.79	6	6	1.94	754.00	747	10	146.3		
0	781.71	11	9	2.98	781.94	779	7	112.4		
0	821.23	23	11	8.06	821.47	815	14	71.9		
0	868.95	7	8	3.13	869.21	866	6	141.7		
0	880.21	12	12	4.13	880.47	876	10	125.2		
0	920.38	10	7	1.10	920.66	916	7	103.9		
1	937.92	12	2	2.25	938.21	937	12	56.7	1.18E+00	
1	942.92	7	6	2.26	943.21	937	12	135.3		
0	1003.06	13	9	1.09	1003.37	999	10	103.7		
0	1012.38	16	5	3.30	1012.69	1009	10	72.3		
0	1195.87	8	0	2.75	1196.25	1194	6	70.7		
0	1245.78	11	0	3.98	1246.18	1243	8	60.3		
0	1558.76	6	2	1.90	1559.28	1554	8	117.9		
0	1602.61	7	0	1.98	1603.14	1600	7	75.6		
0	2613.89*	7	0	2.29	2614.80	2610	9	114.8		TL-208
0	2993.95	5	0	1.50	2995.00	2991	7	89.4		

AG
2/23/12

Summary of Nuclide Activity
Sample ID : 1201163-02
Acquisition date : 22-FEB-2012 10:04:24

Total number of lines in spectrum	28	
Number of unidentified lines	22	
Number of lines tentatively identified by NID	6	21.43%

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-57	270.90D	1.00	2.762E-02	2.765E-02	1.942E-02	70.23	
	Total Activity :		2.762E-02	2.765E-02			

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
TL-208	1.41E+10Y	1.00	4.805E-02	4.805E-02	4.148E-02	86.33	
TH-234	4.47E+09Y	1.00	4.802E-01	4.802E-01	3.764E-01	78.39	
AM-241	432.20Y	1.00	3.862E-02	3.862E-02	3.470E-02	89.87	
	Total Activity :		5.669E-01	5.669E-01			

Grand Total Activity : 5.945E-01 5.945E-01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Nuclide Type: FISSION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
CO-57	122.06	85.51*	2.491E+00	2.762E-02	2.765E-02	70.23	OK
	136.48	10.60	2.406E+00	-----	Line Not Found	-----	Absent

Final Mean for 1 Valid Peaks = 2.765E-02+/- 1.942E-02 (70.23%)

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
TL-208	583.14	30.22*	9.242E-01	4.212E-02	4.212E-02	126.87	OK
	860.37	4.48	6.742E-01	-----	Line Not Found	-----	Absent
	2614.66	35.85	3.402E-01	5.705E-02	5.705E-02	115.37	OK

Final Mean for 2 Valid Peaks = 4.805E-02+/- 4.148E-02 (86.33%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
TH-234	63.29	3.80*	2.516E+00	4.802E-01	4.802E-01	78.39	OK

Final Mean for 1 Valid Peaks = 4.802E-01+/- 3.764E-01 (78.39%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
AM-241	59.54	35.90*	2.470E+00	3.862E-02	3.862E-02	89.87	OK

Final Mean for 1 Valid Peaks = 3.862E-02+/- 3.470E-02 (89.87%)

Flag: "*" = Keyline

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-57	2.765E-02	1.942E-02	1.785E-02	1.514E-03	1.549
TL-208	4.805E-02	4.148E-02	8.872E-02	8.072E-03	0.542
TH-234	4.802E-01	3.764E-01	4.253E-01	3.542E-02	1.129
AM-241	3.862E-02	3.470E-02	4.573E-02	3.421E-03	0.844

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-6.118E-02		1.251E-01	2.222E-01	2.054E-02	-0.275
NA-22	3.580E-03		1.281E-02	2.749E-02	2.709E-03	0.130
NA-24	4.390E-03		2.165E-02	4.563E-02	4.633E-03	0.096
AL-26	-1.511E-02		1.334E-02	1.756E-02	1.587E-03	-0.861
K-40	5.842E-02		1.862E-01	4.205E-01	4.312E-02	0.139
AR-41	5.945E-02		9.401E-01	1.817E+00	1.810E-01	0.033
TI-44	-5.468E-03		1.073E-02	1.664E-02	1.560E-03	-0.329
SC-46	-2.907E-03		1.340E-02	2.214E-02	1.985E-03	-0.131
V-48	1.162E-02		1.440E-02	3.178E-02	2.909E-03	0.366
CR-51	-5.517E-02		1.237E-01	1.991E-01	1.793E-02	-0.277
MN-54	-2.422E-03		1.184E-02	2.229E-02	2.001E-03	-0.109
CO-56	2.818E-03		1.644E-02	3.162E-02	2.840E-03	0.089
CO-58	-5.348E-03		1.574E-02	2.478E-02	2.226E-03	-0.216
FE-59	-2.610E-02		2.604E-02	3.766E-02	3.739E-03	-0.693
CO-60	2.457E-03		1.941E-02	3.768E-02	3.494E-03	0.065
ZN-65	-2.786E-02		3.288E-02	5.092E-02	4.730E-03	-0.547
GA-67	-1.416E-02		4.386E-02	7.222E-02	8.160E-02	-0.196
SE-75	1.150E-02		1.868E-02	3.402E-02	2.819E-03	0.338
RB-82	1.682E-02		1.060E-01	1.914E-01	1.708E-02	0.088
RB-83	-3.220E-03		3.146E-02	5.250E-02	8.396E-03	-0.061
KR-85	1.450E+00		4.082E+00	7.705E+00	7.135E-01	0.188
SR-85	6.368E-03		1.793E-02	3.384E-02	3.134E-03	0.188
Y-88	-4.077E-03		1.125E-02	2.248E-02	2.007E-03	-0.181
NB-93M	-1.704E+01		5.423E+00	2.226E+00	6.701E-01	-7.655
NB-94	6.152E-03		2.088E-02	3.089E-02	2.773E-03	0.199
NB-95	-6.343E-04		1.443E-02	2.722E-02	2.425E-03	-0.023
NB-95M	-6.080E-02		6.147E-02	9.440E-02	7.761E-03	-0.644
ZR-95	-1.070E-02		2.611E-02	4.060E-02	3.955E-03	-0.263
MO-99	7.193E-02		1.155E-01	2.417E-01	2.141E-02	0.298
RU-103	5.058E-03		1.485E-02	2.893E-02	4.212E-03	0.175
RU-106	5.483E-02		1.520E-01	2.965E-01	4.015E-02	0.185
AG-108M	-6.620E-03		1.740E-02	3.085E-02	2.719E-03	-0.215
CD-109	-3.664E-01		3.096E-01	4.845E-01	7.476E-02	-0.756
AG-110M	-1.306E-03		1.711E-02	3.158E-02	2.732E-03	-0.041
SN-113	-1.008E-02		1.675E-02	2.606E-02	2.399E-03	-0.387
TE123M	1.093E-03		1.245E-02	2.154E-02	1.733E-03	0.051
SB-124	9.434E-03		1.487E-02	2.990E-02	2.694E-03	0.316
I-125	-1.626E+00		4.430E-01	5.101E-01	5.232E-02	-3.188
SB-125	-5.091E-02		4.290E-02	6.967E-02	6.464E-03	-0.731

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-126	8.150E-03		3.217E-02	6.162E-02	5.428E-03	0.132
SN-126	-4.045E-02		3.087E-02	4.780E-02	6.756E-03	-0.846
SB-127	2.838E-03		4.309E-02	8.219E-02	7.155E-03	0.035
I-129	-4.589E-02		7.165E-02	1.094E-01	1.341E-02	-0.419
I-131	-5.247E-03		1.727E-02	2.813E-02	2.483E-03	-0.187
TE-132	6.336E-03		1.440E-02	2.554E-02	2.097E-03	0.248
BA-133	-3.025E-02		2.366E-02	3.286E-02	4.373E-03	-0.921
I-133	1.014E-02		2.109E-02	3.921E-02	3.625E-03	0.259
CS-134	-7.286E-03		1.582E-02	2.784E-02	2.511E-03	-0.262
CS-135	-2.608E-02		6.979E-02	1.143E-01	9.400E-03	-0.228
I-135	2.033E-03		1.375E-01	2.756E-01	2.695E-02	0.007
CS-136	-1.190E-02		2.210E-02	3.790E-02	3.584E-03	-0.314
CS-137	-1.218E-02		1.983E-02	3.345E-02	2.890E-03	-0.364
LA-138	9.209E-03		2.448E-02	5.139E-02	5.181E-03	0.179
CE-139	1.793E-03		1.319E-02	2.289E-02	1.822E-03	0.078
BA-140	1.692E-02		4.855E-02	9.620E-02	3.204E-02	0.176
LA-140	1.877E-03		1.578E-02	3.119E-02	3.044E-03	0.060
CE-141	1.837E-02		2.296E-02	3.928E-02	7.248E-03	0.468
CE-143	-2.180E-03		3.591E-02	6.074E-02	5.057E-03	-0.036
CE-144	-2.521E-03		8.994E-02	1.552E-01	1.294E-02	-0.016
PM-144	1.108E-02		1.475E-02	3.046E-02	2.663E-03	0.364
PM-145	-5.590E-01		3.827E-01	1.297E-01	8.465E-02	-4.311
PM-146	8.171E-04		2.821E-02	5.387E-02	4.957E-03	0.015
ND-147	4.204E-02		9.179E-02	1.799E-01	1.662E-02	0.234
PM-149	1.552E-02		4.244E-01	7.286E-01	6.018E-02	0.021
EU-152	-1.794E-02		1.085E-01	2.011E-01	2.439E-02	-0.089
GD-153	8.105E-04		4.110E-02	7.174E-02	8.363E-03	0.011
EU-154	1.007E-02		3.605E-02	7.736E-02	7.625E-03	0.130
EU-155	8.159E-03		3.409E-02	6.007E-02	8.326E-03	0.136
EU-156	-1.334E-02		1.327E-01	2.258E-01	5.187E-02	-0.059
HO-166M	-1.891E-03		2.872E-02	5.334E-02	4.687E-03	-0.035
HF-172	-7.947E-02		9.157E-02	1.329E-01	1.119E-02	-0.598
LU-172	2.172E-02		2.168E-02	5.146E-02	4.772E-03	0.422
LU-173	3.260E-03		5.206E-02	8.986E-02	7.381E-03	0.036
HF-175	-4.322E-03		1.328E-02	2.180E-02	1.898E-03	-0.198
LU-176	2.508E-03		1.333E-02	2.312E-02	1.951E-03	0.109
TA-182	1.586E-02		5.194E-02	1.060E-01	9.839E-03	0.150
IR-192	6.859E-03		2.946E-02	5.615E-02	5.183E-03	0.122
HG-203	2.429E-03		1.652E-02	2.822E-02	2.386E-03	0.086
BI-207	-7.604E-03		1.196E-02	2.073E-02	1.897E-03	-0.367
BI-210M	3.527E-03		2.681E-02	4.621E-02	3.803E-03	0.076
PB-210	5.434E-02		3.061E-01	5.717E-01	4.792E-02	0.095
PB-211	-3.922E-02		3.996E-01	7.169E-01	6.465E-02	-0.055
BI-212	-4.315E-02		1.369E-01	2.424E-01	2.140E-02	-0.178
PB-212	3.989E-03		3.303E-02	6.011E-02	4.945E-03	0.066
BI-214	-1.807E-02		3.678E-02	6.283E-02	5.639E-03	-0.288
PB-214	7.724E-03		3.750E-02	6.559E-02	5.744E-03	0.118
RN-219	1.581E-01		1.833E-01	3.512E-01	3.162E-02	0.450

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-223	5.047E-02		3.088E-01	5.373E-01	4.605E-02	0.094
RA-224	2.605E-01		3.677E-01	6.472E-01	5.326E-02	0.403
RA-225	2.335E-02		3.727E-02	6.026E-02	5.593E-03	0.387
RA-226	1.805E-01		5.570E-01	8.411E-01	1.540E+00	0.215
TH-227	-1.165E-01		1.249E-01	1.930E-01	1.587E-02	-0.604
AC-228	3.464E-04		5.982E-02	1.154E-01	1.038E-02	0.003
TH-230	-1.438E+00		2.735E+00	4.236E+00	3.951E-01	-0.340
PA-231	-1.333E-01		5.221E-01	8.633E-01	7.256E-02	-0.154
TH-231	1.797E-02		3.378E-01	5.444E-01	8.018E-02	0.033
PA-233	1.148E-03		3.094E-02	5.306E-02	1.188E-02	0.022
PA-234	1.244E-02		4.765E-02	8.410E-02	7.033E-03	0.148
PA-234M	-2.408E-03		2.257E+00	3.821E+00	3.508E-01	-0.001
U-235	1.163E-01		1.030E-01	1.882E-01	3.258E-02	0.618
NP-237	2.004E-02		8.360E-02	1.473E-01	2.042E-02	0.136
NP-239	-2.286E-02		4.512E-02	7.526E-02	8.406E-03	-0.304
AM-243	-1.393E-02		1.767E-02	2.798E-02	3.067E-03	-0.498
CM-243	7.118E-03		9.062E-02	1.538E-01	1.261E-02	0.046

Sample ID : 1201163-02 Acquisition date : 22-FEB-2012 10:04:24

Total number of lines in spectrum	28	
Number of unidentified lines	22	
Number of lines tentatively identified by NID	6	21.43%

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-57	270.90D	1.00	2.762E-02	2.765E-02	1.942E-02	70.23	
			---------	---------			
	Total Activity :		2.762E-02	2.765E-02			

Nuclide Type : NATURAL

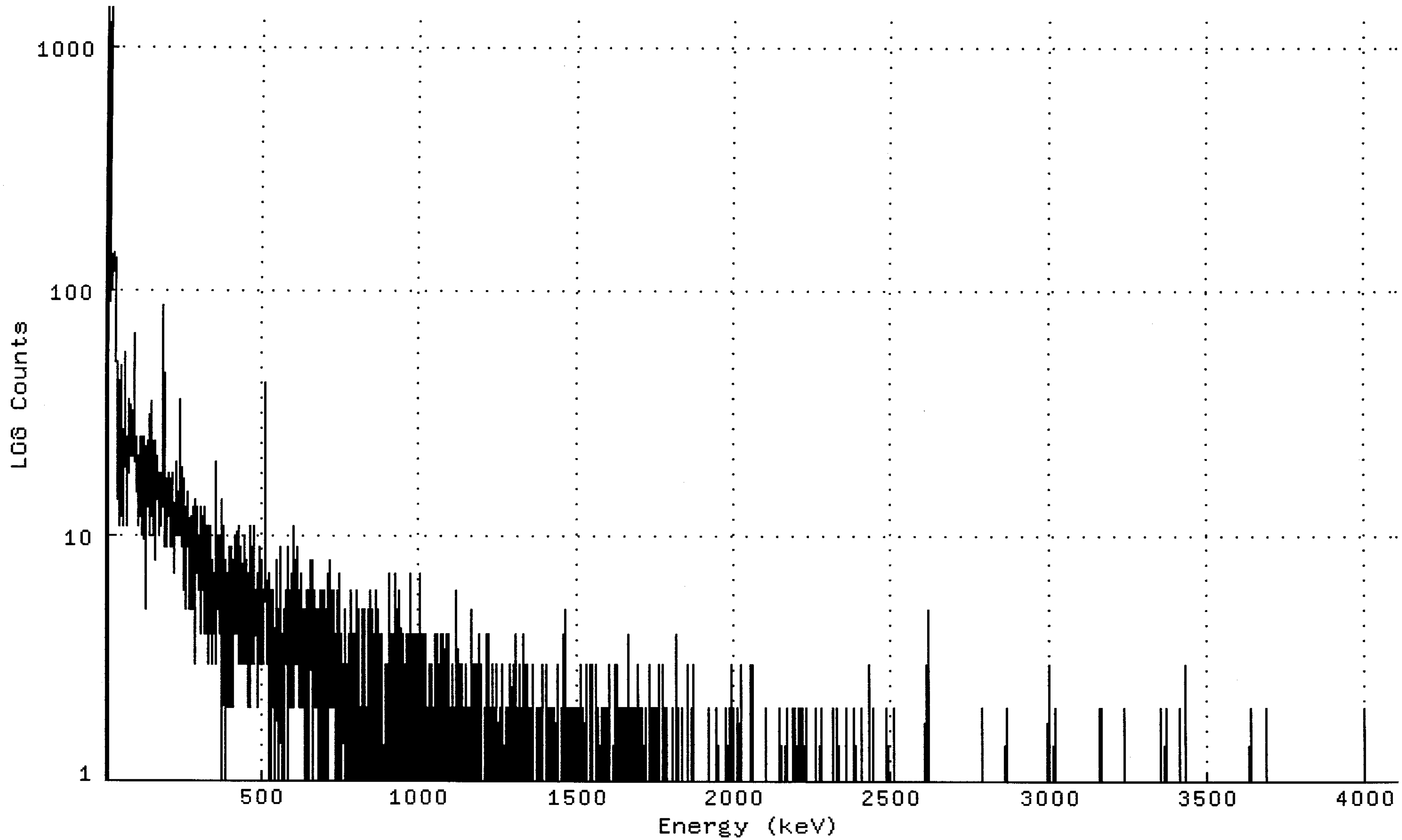
Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
TL-208	1.41E+10Y	1.00	4.805E-02	4.805E-02	4.148E-02	86.33	
TH-234	4.47E+09Y	1.00	4.802E-01	4.802E-01	3.764E-01	78.39	
AM-241	432.20Y	1.00	3.862E-02	3.862E-02	3.470E-02	89.87	
			---------	---------			
	Total Activity :		5.669E-01	5.669E-01			

Grand Total Activity : 5.945E-01 5.945E-01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Spectrum : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116302_GE2_GAS1102_176233.CNF;1
Title :
Sample Title: BLANK

Start Time:	22-FEB-2012 10:04	Sample Time:	22-FEB-2012 00:00	Energy Offset:	6.87229E-02
Real Time :	0 01:00:00.54	Sample ID :	1201163-02	Energy Slope :	9.99625E-01
Live Time :	0 01:00:00.00	Sample Type:	SOLID	Energy Quad :	0.00000E+00



0067

Channel Contents for DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116302_GE2_GAS1102_1762

Channel

1:	0	0	0	0	0	0	0	98
9:	530	1042	1444	889	437	1392	686	90
17:	111	118	120	140	119	130	126	138
25:	142	120	136	135	112	134	90	86
33:	69	53	48	51	19	26	14	18
41:	11	12	28	16	28	37	49	22
49:	16	19	16	12	26	20	12	11
57:	24	21	35	24	19	24	56	40
65:	16	18	11	20	23	20	18	27
73:	20	26	36	21	34	24	25	27
81:	23	21	24	24	32	25	21	28
89:	21	33	20	60	66	23	24	21
97:	23	16	20	25	15	21	17	17
105:	19	16	11	17	18	19	12	15
113:	25	22	13	10	11	14	25	22
121:	25	18	24	13	18	5	19	18
129:	17	23	11	24	15	13	17	17
137:	14	15	17	19	17	10	28	35
145:	21	12	12	15	12	12	15	21
153:	14	24	10	19	16	8	17	24
161:	21	19	18	19	17	14	21	10
169:	10	17	14	18	10	17	13	13
177:	13	18	11	20	18	13	15	13
185:	26	87	24	11	9	18	11	12
193:	12	9	17	15	17	12	12	15
201:	15	18	13	15	13	15	9	11
209:	17	9	11	9	12	18	10	12
217:	7	11	9	11	9	13	14	11
225:	13	10	20	13	13	12	10	13
233:	12	15	10	18	12	25	36	24
241:	15	13	17	13	9	11	17	11
249:	6	12	14	10	10	5	9	13
257:	5	12	13	10	9	15	10	14
265:	10	9	10	9	5	9	12	11
273:	5	8	10	10	11	13	13	9
281:	11	11	5	9	3	12	14	6
289:	11	8	10	7	10	7	13	7
297:	9	10	6	9	7	7	13	4
305:	11	11	10	6	12	9	7	6
313:	6	13	8	6	8	5	4	11
321:	4	11	5	11	10	3	5	10
329:	11	10	6	4	8	6	11	7
337:	6	5	8	6	8	3	5	6
345:	7	4	7	5	6	4	10	20
353:	9	6	3	10	6	5	9	9
361:	7	4	8	6	6	10	9	9
369:	6	14	12	6	5	1	4	4
377:	4	9	10	11	1	6	8	8
385:	4	7	3	7	5	4	2	5
393:	4	2	9	9	7	5	2	3
401:	9	9	5	8	7	4	2	4
409:	5	7	9	4	8	10	6	7
417:	5	6	8	4	4	10	11	8
425:	4	5	4	3	8	3	4	6

433:	9	5	6	6	7	7	3	6
441:	10	3	5	5	4	9	3	4
449:	6	8	5	4	3	7	7	2
457:	3	4	3	2	11	5	7	6
465:	2	9	9	3	7	8	5	4
473:	8	11	3	4	3	6	6	6
481:	4	5	5	3	2	7	5	6
489:	3	3	4	4	3	6	9	5
497:	8	3	4	3	4	6	5	3
505:	5	4	4	7	12	18	42	21
513:	11	4	5	5	6	6	3	3
521:	4	5	7	5	0	1	0	6
529:	4	3	4	5	3	4	5	2
537:	6	3	4	4	3	3	1	3
545:	8	7	3	2	7	5	5	5
553:	3	4	5	1	2	2	6	4
561:	9	8	1	4	4	2	1	3
569:	3	5	1	1	5	5	3	5
577:	3	6	3	6	2	5	9	7
585:	7	1	4	5	3	2	6	5
593:	4	2	4	7	3	3	2	11
601:	2	8	3	7	3	4	3	4
609:	6	8	4	4	5	6	3	9
617:	2	2	6	2	5	4	7	6
625:	2	4	2	4	4	4	2	3
633:	4	5	4	2	3	2	0	4
641:	5	4	4	6	0	1	0	4
649:	1	6	5	6	4	6	4	8
657:	3	4	4	2	7	8	2	1
665:	3	5	3	4	2	6	3	2
673:	5	5	4	5	5	5	3	3
681:	1	3	3	3	6	1	3	4
689:	4	6	2	2	1	2	6	6
697:	1	5	4	3	3	2	5	4
705:	2	5	1	1	3	1	2	3
713:	7	5	3	8	2	5	5	5
721:	6	3	3	2	2	2	6	3
729:	3	4	2	4	3	3	2	1
737:	0	4	4	1	6	2	1	3
745:	1	1	0	1	7	3	4	4
753:	1	4	1	0	2	2	2	3
761:	2	3	3	1	1	5	2	4
769:	2	3	2	3	1	2	2	3
777:	4	1	0	3	4	6	4	2
785:	1	3	3	0	0	3	4	4
793:	2	2	1	4	1	3	1	2
801:	3	4	6	3	5	2	3	1
809:	3	2	1	2	2	1	0	2
817:	1	2	4	4	5	2	4	2
825:	1	5	1	1	1	2	2	1
833:	1	1	1	1	1	5	3	1
841:	1	6	1	3	3	2	4	5
849:	2	1	3	3	2	2	1	4
857:	1	1	3	4	2	6	1	1
865:	2	0	4	3	5	3	0	3
873:	4	1	1	2	2	1	4	4
881:	3	4	2	1	1	1	1	1
889:	1	0	3	1	2	2	0	3
897:	0	1	1	1	0	0	1	7
905:	2	1	0	3	1	4	2	3

913:	3	3	1	3	1	0	4	2
921:	7	0	0	1	1	2	2	1
929:	5	2	2	2	2	4	4	1
937:	0	6	3	1	0	1	4	1
945:	4	1	1	0	2	2	0	0
953:	2	0	3	1	1	3	2	4
961:	3	3	0	4	1	3	3	1
969:	2	1	1	7	1	1	4	2
977:	3	0	0	0	2	2	2	4
985:	0	3	2	4	1	1	3	4
993:	1	4	4	0	4	1	2	2
1001:	1	7	2	3	2	1	2	0
1009:	1	2	4	4	4	1	2	2
1017:	1	0	1	3	4	1	2	1
1025:	0	2	2	2	1	1	2	0
1033:	0	3	3	0	2	3	3	1
1041:	0	2	0	2	2	1	0	4
1049:	2	2	1	0	2	1	4	0
1057:	0	2	1	0	1	1	3	3
1065:	3	3	0	4	2	4	0	2
1073:	1	3	1	1	4	3	3	1
1081:	1	1	2	4	2	0	2	0
1089:	1	1	3	0	4	3	1	0
1097:	1	0	0	1	0	2	1	0
1105:	1	3	1	1	1	2	1	1
1113:	2	0	1	0	2	1	2	6
1121:	2	2	1	2	2	3	2	0
1129:	1	1	2	3	1	2	3	2
1137:	0	0	2	2	0	2	0	0
1145:	2	1	2	1	3	2	1	2
1153:	0	1	1	2	1	1	2	1
1161:	2	2	0	3	0	5	0	3
1169:	3	2	1	3	3	2	2	3
1177:	3	1	0	2	0	3	2	1
1185:	2	2	2	1	1	4	0	2
1193:	0	0	2	3	2	1	0	0
1201:	0	1	1	1	1	1	2	0
1209:	1	0	0	0	4	2	2	2
1217:	2	3	0	1	3	4	0	1
1225:	2	1	1	1	0	2	2	0
1233:	3	2	0	0	1	0	0	1
1241:	2	0	0	2	2	2	3	1
1249:	1	0	0	1	1	0	2	1
1257:	0	1	1	3	0	0	0	1
1265:	1	0	1	1	0	0	1	2
1273:	0	2	0	1	0	2	1	0
1281:	2	1	1	0	2	1	0	0
1289:	1	3	2	2	2	0	2	1
1297:	1	0	3	1	0	2	3	4
1305:	1	1	3	1	0	0	2	1
1313:	1	0	2	1	1	1	3	1
1321:	0	0	1	1	2	1	0	2
1329:	2	1	3	4	0	3	0	0
1337:	3	0	0	0	1	3	1	3
1345:	1	1	2	0	1	1	0	0
1353:	2	1	1	1	1	3	3	0
1361:	2	1	0	0	1	0	1	1
1369:	1	1	1	1	0	1	2	1
1377:	2	1	0	2	1	1	0	0
1385:	2	1	0	3	2	1	1	1

1393:	1	0	1	0	0	0	1	0
1401:	1	0	3	0	0	1	1	2
1409:	1	0	1	2	2	2	0	1
1417:	0	0	2	1	0	0	1	0
1425:	1	2	2	2	2	1	1	1
1433:	1	1	0	3	1	2	1	0
1441:	1	0	1	0	1	1	1	0
1449:	2	2	0	1	1	0	1	0
1457:	1	0	4	0	5	4	3	0
1465:	1	0	0	0	2	1	0	1
1473:	0	2	0	0	1	2	0	1
1481:	2	0	0	1	0	2	1	0
1489:	0	2	0	0	2	1	1	1
1497:	1	0	2	0	2	1	0	0
1505:	1	0	2	0	3	1	0	1
1513:	1	0	0	1	1	0	0	2
1521:	0	0	0	0	1	0	3	0
1529:	1	0	0	0	1	0	0	0
1537:	1	1	0	1	3	1	1	2
1545:	1	1	1	0	2	3	0	1
1553:	0	1	0	0	1	1	3	2
1561:	0	0	0	0	0	0	1	1
1569:	2	1	0	0	1	0	0	2
1577:	0	0	0	0	0	1	1	1
1585:	2	1	0	2	1	1	1	0
1593:	2	0	2	2	1	0	0	0
1601:	0	2	3	1	1	0	0	0
1609:	0	1	1	1	1	0	1	0
1617:	1	2	0	3	1	0	1	1
1625:	1	0	1	1	3	1	1	0
1633:	2	1	1	0	0	0	0	2
1641:	0	0	1	0	2	0	0	1
1649:	0	0	0	0	2	0	2	2
1657:	0	2	0	0	1	2	0	0
1665:	1	4	0	0	2	0	0	1
1673:	0	2	1	0	1	1	2	0
1681:	1	0	0	1	2	0	0	0
1689:	1	1	0	0	3	0	2	0
1697:	2	0	1	2	0	0	0	2
1705:	0	1	1	0	1	0	0	1
1713:	0	1	2	1	0	1	0	0
1721:	0	1	0	1	0	0	1	1
1729:	3	1	0	1	0	2	1	0
1737:	0	0	2	0	0	2	1	1
1745:	0	1	0	2	0	1	1	0
1753:	1	2	0	1	0	3	0	0
1761:	0	2	1	0	1	0	1	1
1769:	0	0	0	3	1	1	0	0
1777:	1	1	0	2	0	0	2	0
1785:	1	1	1	1	0	0	0	0
1793:	1	1	0	0	0	0	1	0
1801:	2	1	2	0	0	0	0	0
1809:	0	0	1	0	0	0	1	0
1817:	4	0	1	0	0	0	1	0
1825:	0	0	0	0	1	0	0	2
1833:	0	1	0	0	0	1	0	0
1841:	1	0	0	0	0	1	0.	0
1849:	0	3	3	0	2	1	0	0
1857:	1	0	1	1	0	0	0	2
1865:	0	0	0	3	0	0	0	1

1873:	0	0	0	0	1	1	0	0
1881:	0	0	0	0	0	0	1	0
1889:	1	1	0	1	0	0	0	0
1897:	1	0	1	1	0	0	0	0
1905:	0	0	0	0	1	0	0	0
1913:	0	0	0	0	0	0	2	0
1921:	1	0	0	0	1	0	1	0
1929:	0	1	0	0	1	0	0	0
1937:	0	0	0	1	0	2	1	0
1945:	2	1	0	0	0	1	0	0
1953:	0	0	0	0	1	1	0	0
1961:	0	1	0	1	0	0	0	0
1969:	0	1	0	0	0	0	2	0
1977:	0	0	0	0	1	0	0	0
1985:	2	0	0	1	0	0	0	3
1993:	0	0	2	0	0	1	0	0
2001:	1	0	0	1	1	1	0	2
2009:	0	1	0	1	0	1	0	1
2017:	0	0	3	1	0	1	1	1
2025:	0	0	0	0	0	1	0	1
2033:	1	0	0	0	0	0	0	1
2041:	1	1	1	1	1	1	0	1
2049:	1	3	2	1	1	0	1	0
2057:	1	3	0	1	0	0	0	0
2065:	1	1	1	0	0	0	0	0
2073:	0	1	0	0	0	0	0	0
2081:	0	0	1	0	0	0	0	0
2089:	1	1	0	0	0	1	0	1
2097:	1	0	1	2	2	0	0	0
2105:	0	1	0	1	1	0	0	0
2113:	0	0	0	0	0	0	1	0
2121:	0	1	1	0	0	1	0	0
2129:	0	0	0	0	0	0	0	0
2137:	0	0	0	0	1	0	0	1
2145:	2	1	0	0	0	1	1	0
2153:	0	1	0	1	0	0	0	0
2161:	0	0	0	2	1	0	0	0
2169:	0	0	0	0	1	0	1	0
2177:	0	0	1	0	1	0	0	2
2185:	0	0	0	0	0	0	1	0
2193:	1	2	0	0	0	1	0	0
2201:	1	0	0	2	0	0	0	2
2209:	0	1	1	0	0	0	0	0
2217:	2	2	1	0	1	1	0	0
2225:	1	2	0	0	0	0	0	1
2233:	0	1	0	1	1	0	0	0
2241:	0	0	1	0	0	1	0	0
2249:	1	1	0	0	0	0	0	1
2257:	0	0	2	0	1	0	0	1
2265:	0	1	1	1	0	1	0	0
2273:	2	0	0	0	1	1	0	0
2281:	1	0	1	0	0	1	1	0
2289:	0	1	1	0	0	0	0	0
2297:	0	1	0	0	1	0	0	1
2305:	0	0	0	0	1	0	0	0
2313:	2	0	0	1	1	1	0	1
2321:	0	0	0	0	2	0	2	1
2329:	0	0	0	0	1	0	0	1
2337:	0	0	0	0	0	0	1	0
2345:	1	0	0	0	0	0	0	0

2353:	2	1	0	0	0	1	0	0
2361:	0	1	0	0	0	0	0	0
2369:	1	0	0	0	1	0	0	0
2377:	0	0	0	1	0	2	0	0
2385:	1	1	0	0	0	0	0	0
2393:	0	1	0	1	0	0	1	0
2401:	0	2	0	0	0	1	0	0
2409:	0	0	1	0	1	0	0	0
2417:	1	0	0	1	0	0	0	0
2425:	0	1	0	3	0	1	1	0
2433:	0	0	0	0	0	0	2	0
2441:	2	0	0	0	0	0	0	1
2449:	0	0	0	0	1	0	0	0
2457:	0	1	0	0	0	0	0	0
2465:	1	1	1	0	0	0	0	0
2473:	0	0	1	0	0	0	1	0
2481:	0	0	0	0	2	1	0	0
2489:	0	0	0	0	0	1	1	1
2497:	1	0	0	1	1	0	1	1
2505:	1	2	0	0	0	0	0	0
2513:	0	0	1	0	0	0	0	0
2521:	0	0	1	1	0	0	0	0
2529:	1	0	0	0	0	0	0	0
2537:	0	0	0	1	0	0	0	0
2545:	0	0	0	0	1	0	0	0
2553:	1	0	1	0	1	1	1	0
2561:	1	1	0	0	0	0	0	0
2569:	0	0	0	0	0	0	0	1
2577:	0	0	0	1	0	0	0	0
2585:	0	0	0	0	0	0	0	0
2593:	0	0	0	0	0	0	1	0
2601:	0	0	0	0	0	0	3	0
2609:	0	0	0	1	1	4	5	2
2617:	2	0	0	0	0	0	1	0
2625:	0	1	0	0	0	0	0	0
2633:	0	0	0	1	0	0	0	0
2641:	0	0	1	0	0	0	0	1
2649:	0	0	0	0	0	0	0	0
2657:	0	0	0	0	0	1	1	0
2665:	0	0	0	1	1	0	0	0
2673:	0	1	0	0	0	0	0	1
2681:	0	0	0	0	1	0	1	0
2689:	0	0	0	0	0	0	0	0
2697:	1	0	0	0	0	1	1	0
2705:	0	1	0	0	1	1	0	0
2713:	0	0	0	1	0	0	0	0
2721:	1	0	0	0	0	0	0	0
2729:	1	0	0	0	0	0	0	0
2737:	0	1	0	0	0	1	1	0
2745:	0	0	0	1	0	0	0	0
2753:	1	0	0	0	0	0	0	1
2761:	1	0	0	0	0	0	1	0
2769:	0	0	1	1	0	0	0	0
2777:	0	0	0	0	0	0	1	2
2785:	0	0	0	1	0	0	0	0
2793:	0	0	0	0	0	0	0	0
2801:	0	0	0	0	0	0	0	0
2809:	0	1	0	0	0	0	0	0
2817:	0	0	0	0	1	0	1	1
2825:	0	0	0	0	0	0	0	0

2833:	0	0	0	0	0	0	0	0
2841:	1	0	0	0	0	0	0	0
2849:	0	0	0	0	0	0	0	0
2857:	1	0	0	0	0	2	0	0
2865:	0	1	0	0	0	0	0	0
2873:	0	0	0	0	0	0	0	0
2881:	1	0	0	0	0	1	0	0
2889:	0	0	0	1	0	0	0	1
2897:	1	0	0	0	0	0	0	0
2905:	0	0	0	0	1	0	1	0
2913:	0	0	0	0	0	0	0	0
2921:	0	0	0	0	0	0	0	0
2929:	0	0	0	0	0	0	1	0
2937:	0	0	0	0	0	0	1	1
2945:	0	0	0	0	0	1	0	0
2953:	0	0	0	0	0	0	0	1
2961:	0	1	0	0	0	0	0	0
2969:	0	1	0	0	0	0	0	0
2977:	1	0	0	0	0	0	0	0
2985:	0	0	0	0	0	0	0	0
2993:	0	1	3	1	0	0	0	0
3001:	0	0	0	0	0	0	0	0
3009:	0	0	0	1	1	2	0	0
3017:	0	0	0	0	0	1	0	0
3025:	0	0	0	0	0	0	0	0
3033:	0	0	0	1	0	0	1	1
3041:	0	0	1	0	0	0	0	0
3049:	0	0	0	1	1	0	1	0
3057:	1	1	0	0	0	0	0	0
3065:	0	0	0	0	0	0	0	0
3073:	0	0	0	0	0	0	0	0
3081:	0	0	0	0	0	0	0	0
3089:	0	0	1	0	0	0	0	0
3097:	0	0	0	0	0	0	0	0
3105:	0	0	0	0	0	1	0	0
3113:	0	0	0	0	0	0	0	0
3121:	1	0	0	0	0	0	0	0
3129:	0	0	0	0	0	0	0	0
3137:	1	0	1	0	0	0	0	0
3145:	0	0	0	0	0	0	0	0
3153:	0	0	2	0	1	1	0	0
3161:	1	2	0	0	0	0	0	0
3169:	0	0	1	0	0	0	0	0
3177:	0	1	0	0	0	0	0	0
3185:	0	0	0	0	0	0	1	0
3193:	0	0	0	0	1	0	0	1
3201:	0	0	0	0	0	0	0	0
3209:	0	1	0	0	1	0	0	0
3217:	1	0	0	0	0	0	0	0
3225:	0	0	0	0	0	0	1	0
3233:	0	2	0	0	0	0	0	0
3241:	0	0	0	0	0	0	0	0
3249:	1	0	0	0	0	1	0	1
3257:	0	0	0	1	0	0	0	1
3265:	0	0	0	0	0	0	0	0
3273:	0	0	0	0	0	0	0	1
3281:	0	0	0	0	0	0	0	0
3289:	1	0	0	1	0	0	0	0
3297:	0	0	0	0	0	0	1	1
3305:	0	0	0	1	1	0	1	1

3313:	1	1	0	0	0	0	0	0
3321:	0	0	0	0	0	0	0	0
3329:	0	1	0	0	0	0	0	1
3337:	0	1	0	0	0	0	0	0
3345:	0	0	0	0	0	0	2	1
3353:	1	0	0	0	0	0	0	0
3361:	0	0	0	0	2	0	0	0
3369:	0	1	0	0	0	0	0	0
3377:	0	0	0	0	0	0	0	0
3385:	0	0	0	0	0	0	1	0
3393:	0	0	1	0	1	0	0	0
3401:	0	0	0	0	0	0	0	0
3409:	0	0	1	2	0	0	0	0
3417:	0	0	1	0	0	0	0	0
3425:	0	0	0	0	3	0	0	0
3433:	0	0	0	0	0	0	1	0
3441:	0	0	1	0	0	0	0	0
3449:	0	0	0	0	0	0	0	1
3457:	0	0	1	0	0	0	0	1
3465:	0	0	0	0	0	0	0	0
3473:	0	0	0	1	0	0	0	0
3481:	0	1	0	0	0	0	0	0
3489:	0	0	0	1	0	0	0	0
3497:	0	0	0	0	0	0	1	1
3505:	0	0	0	0	0	0	0	0
3513:	0	0	0	1	0	0	1	0
3521:	0	0	0	0	0	0	0	0
3529:	0	0	1	0	1	0	0	0
3537:	0	0	0	0	0	0	0	0
3545:	0	0	0	0	0	0	0	0
3553:	0	0	1	0	0	1	0	0
3561:	0	0	0	1	0	0	0	0
3569:	0	0	0	0	0	0	0	0
3577:	1	0	1	0	1	0	0	1
3585:	0	0	0	1	0	1	0	0
3593:	0	0	0	0	1	0	0	0
3601:	0	0	1	0	0	1	0	1
3609:	0	0	0	0	0	0	0	0
3617:	0	0	0	0	0	0	0	0
3625:	0	0	0	0	0	0	0	2
3633:	0	0	1	0	0	0	1	0
3641:	0	0	0	0	0	1	0	1
3649:	0	0	0	0	0	0	0	0
3657:	0	0	0	0	1	0	0	0
3665:	0	0	0	0	0	0	1	0
3673:	0	0	0	0	0	0	0	0
3681:	0	0	0	1	2	0	0	0
3689:	0	0	0	0	0	0	0	0
3697:	0	0	0	0	0	0	0	0
3705:	0	0	0	1	0	1	0	0
3713:	0	0	0	0	0	0	0	0
3721:	0	0	0	0	0	0	0	0
3729:	0	0	0	0	0	1	0	0
3737:	0	0	0	1	0	0	0	0
3745:	0	0	0	0	0	0	0	0
3753:	0	0	0	0	0	0	0	0
3761:	0	0	1	0	0	1	0	1
3769:	0	0	1	0	0	1	0	0
3777:	0	1	1	0	0	0	0	0
3785:	0	0	0	0	0	0	0	1

3793:	0	0	0	0	1	0	0	0
3801:	0	0	0	0	0	1	0	1
3809:	0	0	1	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0
3825:	0	0	0	1	0	1	0	0
3833:	1	0	0	0	0	0	0	0
3841:	0	1	0	0	0	0	0	0
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	0	0	0	0	0
3865:	0	0	0	0	1	0	0	0
3873:	0	0	1	1	0	0	0	0
3881:	0	0	0	0	0	0	0	0
3889:	0	0	0	0	0	0	0	0
3897:	0	0	0	0	0	0	0	0
3905:	0	0	0	0	0	0	0	1
3913:	0	1	0	0	0	0	0	0
3921:	0	1	0	0	0	0	0	0
3929:	0	0	0	0	0	1	0	1
3937:	0	0	0	0	0	0	0	0
3945:	0	0	0	0	0	0	0	0
3953:	0	0	0	0	0	0	0	0
3961:	1	0	0	1	0	0	0	0
3969:	0	0	1	0	0	0	0	0
3977:	0	0	0	0	0	1	0	0
3985:	0	0	0	0	0	0	0	2
3993:	0	0	0	1	0	0	0	0
4001:	0	0	1	0	0	0	1	0
4009:	0	0	0	0	0	0	1	0
4017:	0	0	0	0	0	0	0	0
4025:	0	1	1	1	0	0	0	1
4033:	0	0	0	0	0	0	0	0
4041:	0	0	0	0	0	0	0	0
4049:	1	0	0	0	0	0	0	0
4057:	0	1	0	0	0	0	0	0
4065:	0	0	0	0	0	0	0	0
4073:	1	0	0	0	0	0	0	0
4081:	0	0	0	0	0	0	1	0
4089:	0	0	0	0	0	0	0	0

ICP
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Sample ID : 1201163-03 Acquisition date : 22-FEB-2012 10:27:59

VAX/VMS Peak Search Report Generated 22-FEB-2012 11:28:57.12

Configuration : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116303_GE1_GAS1102_176236.
Analyses by : PEAK V16.9 ENBACK V1.6 PEAKEFF V2.2
Client ID : JM-70-32-120128
Deposition Date :
Sample Date : 28-JAN-2012 00:00:00 Acquisition date : 22-FEB-2012 10:27:59
Sample ID : 1201163-03 Sample Quantity : 5.79990E+02 GRAM
Sample type : SOLID Sample Geometry : 0
Detector name : GE1 Detector Geometry: GAS-1102
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:44.07 1.2%
Start channel : 5 End channel : 4096
Sensitivity : 2.40000 Gaussian : 15.00000
Critical level : Yes

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	46.67*	9057	16762	1.80	46.30	44	5	4.8		PB-210
0	53.21	2024	24429	1.14	52.84	50	6	24.8		
0	63.50*	7570	28675	1.35	63.13	61	5	7.1		TH-234
0	67.88	1389	23867	1.74	67.51	66	4	31.9		
0	76.69*	57471	70461	2.91	76.32	71	12	2.0		
0	93.16*	11796	32592	1.66	92.80	90	7	5.5		GA-67
0	113.16	907	16732	1.84	112.80	111	5	43.4		
0	144.51*	1844	23732	1.40	144.15	141	7	28.1		U-235
										CE-141
0	154.66	1210	20377	1.89	154.30	152	6	37.8		
0	164.31*	724	17840	2.28	163.96	162	6	58.9		U-235
0	186.48*	20217	24775	1.50	186.13	182	9	3.1		RA-226
0	205.70	654	11107	1.84	205.36	204	5	49.1		U-235
1	236.42	1819	9281	1.51	236.09	233	14	16.5	4.72E+00	NB-95M
1	242.40	17744	7221	1.44	242.07	233	14	2.0		RA-224
1	256.39	881	7715	1.77	256.05	253	10	30.5	7.23E+00	
1	259.21	1229	7550	1.78	258.88	253	10	22.4		
6	270.58	3225	12627	2.87	270.25	264	14	13.1	6.34E+00	
6	275.03	964	6813	1.57	274.70	264	14	27.2		
0	286.70	359	7944	5.26	286.38	284	6	79.5		
3	295.61*	39929	6245	1.54	295.29	290	13	1.2	1.65E+01	PB-214
3	299.78	1387	8713	2.19	299.45	290	13	28.7		GA-67
1	324.24	595	5022	1.83	323.92	321	13	36.9	2.86E+00	RA-223
1	330.15	592	5229	1.68	329.83	321	13	37.2		
0	338.98	394	6216	1.94	338.67	336	6	64.2		
2	352.32*	68438	4448	1.59	352.01	346	15	0.8	4.17E+01	PB-214
2	355.96	1843	4879	2.04	355.65	346	15	18.4		
0	388.23	810	6376	2.98	387.93	385	8	34.8		
1	402.17	686	4729	1.87	401.87	399	10	32.7	3.03E+00	RN-219
1	405.37	514	4745	1.90	405.07	399	10	44.2		PB-211
0	428.39	348	4320	1.83	428.10	426	6	61.0		
0	444.73	180	3392	2.01	444.44	443	6	103.7		
0	455.03	324	3927	1.84	454.74	452	7	65.1		
0	462.10	266	2655	1.53	461.81	460	5	59.4		
0	469.56	158	3096	1.07	469.27	467	6	112.4		
2	480.91	539	2883	2.14	480.63	477	14	32.6	1.14E+00	

AG
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Sample ID : 1201163-03 Acquisition date : 22-FEB-2012 10:27:59

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
2	487.56	545	2327	1.57	487.28	477	14	28.0		
0	511.00*	945	4545	2.96	510.72	505	11	28.5		
1	531.45	117	1129	1.64	531.18	530	10	78.7	4.76E+00	
1	534.45	349	2318	1.98	534.18	530	10	45.5		
0	543.96	136	2431	1.52	543.69	542	6	116.3		
0	580.87	267	2815	1.37	580.61	577	7	66.8		
6	604.82	224	688	2.08	604.56	603	18	29.5	2.46E+01	
6	609.75*	50593	1567	1.72	609.50	603	18	0.9		BI-214
6	613.64	1578	1988	2.46	613.39	603	18	22.9		
0	665.84	1493	2625	1.96	665.60	661	10	13.8		
0	688.81	89	1219	1.34	688.57	687	5	119.0		
0	703.73	460	2177	2.01	703.50	700	8	36.4		
0	720.85	382	1925	1.66	720.62	717	8	41.1		
0	742.62	242	1803	3.19	742.39	739	7	59.4		
0	768.79*	5167	2580	2.06	768.57	764	11	4.7		
0	786.35	951	2062	1.65	786.13	782	8	17.8		
0	806.43	1105	1857	2.08	806.21	802	8	14.8		
0	826.23	126	1625	1.96	826.02	824	7	107.5		
2	832.48	260	1099	1.73	832.27	830	15	40.2	2.99E+00	PB-211
2	839.53	621	1337	2.07	839.32	830	15	20.4		
0	873.10	163	1842	3.63	872.90	870	8	92.6		
0	934.74	2633	2379	2.07	934.55	930	11	8.2		
0	964.29	385	1534	2.74	964.11	961	8	36.5		
0	1002.11*	570	1853	2.27	1001.93	997	10	29.6		PA-234M
0	1022.42	101	1178	2.99	1022.25	1020	7	115.2		
0	1052.73	216	1091	2.07	1052.56	1049	7	52.7		
0	1070.38	255	1240	2.64	1070.22	1066	8	49.6		
0	1083.43	93	869	2.86	1083.27	1081	6	102.9		
0	1097.03	109	845	2.09	1096.88	1095	6	86.4		
0	1104.85	208	1190	2.76	1104.70	1101	8	59.1		
3	1120.80	10631	1008	1.95	1120.64	1115	14	2.2	1.67E+00	BI-214
3	1124.46	292	1358	2.78	1124.31	1115	14	81.6		
5	1152.06	52	443	1.79	1151.91	1150	12	110.5	1.74E+00	
5	1155.74	1232	877	2.13	1155.60	1150	12	9.5		
0	1183.15	161	1100	1.91	1183.01	1179	8	73.4		
1	1205.35	71	233	1.90	1205.21	1204	12	55.1	3.52E+00	
1	1208.34	287	819	2.33	1208.21	1204	12	35.9		
0	1219.38	94	1000	3.31	1219.25	1216	8	118.3		
4	1238.63	3955	709	2.04	1238.50	1233	13	3.8	7.12E-01	
4	1242.47	151	719	2.55	1242.34	1233	13	64.2		
0	1253.79	200	1122	3.30	1253.66	1250	9	61.9		
0	1281.49	941	1183	2.13	1281.37	1277	10	15.2		
0	1317.52	114	964	1.94	1317.41	1313	9	99.8		
1	1378.24	2924	786	2.35	1378.14	1373	18	4.8	7.08E+00	
1	1386.15	477	737	2.40	1386.05	1373	18	21.3		
0	1402.08	884	809	1.88	1401.99	1398	8	13.0		
0	1408.66	1355	942	2.23	1408.57	1405	8	9.6		
0	1461.44*	942	1039	2.17	1461.36	1457	10	14.4		K-40
3	1504.95	121	537	2.96	1504.88	1502	17	59.4	2.28E+00	
3	1509.80	1425	728	2.41	1509.73	1502	17	8.3		
3	1514.81	123	801	2.81	1514.74	1502	17	87.2		

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
3	1538.85	329	971	2.84	1538.79	1533	15	36.3	1.80E+00	
3	1543.73	262	718	2.22	1543.67	1533	15	37.2		
0	1583.67	381	777	2.23	1583.62	1579	10	29.2		
1	1594.83	153	574	2.23	1594.77	1591	15	53.1	4.92E+00	
1	1600.19	244	540	2.48	1600.14	1591	15	33.9		
0	1661.86	679	619	2.37	1661.83	1655	13	16.9		
0	1682.99	101	466	1.93	1682.95	1677	12	87.9		
0	1693.32	178	421	2.62	1693.28	1689	10	45.7		
0	1730.09	1970	441	2.72	1730.07	1726	12	6.2		
0	1738.99	52	263	4.53	1738.97	1737	9	115.4		
0	1765.11*	9170	448	2.40	1765.09	1758	14	2.3		BI-214
4	1839.01	165	281	2.94	1839.01	1832	24	38.7	1.49E+00	
4	1848.02	1241	201	2.34	1848.02	1832	24	6.8		
3	1868.30	50	73	3.12	1868.30	1867	12	47.0	7.64E+00	
3	1873.65	133	215	3.12	1873.66	1867	12	43.9		
3	1890.89	60	140	2.40	1890.90	1888	15	62.5	1.43E+00	
3	1896.77	104	243	3.13	1896.78	1888	15	58.3		
5	1937.43	79	248	3.81	1937.45	1933	26	74.5	2.26E+00	
5	1947.76	38	239	3.15	1947.78	1933	26	150.9		
5	1956.26	69	128	3.57	1956.28	1933	26	52.1		
1	2017.20	40	105	2.63	2017.24	2014	13	84.6	3.33E+00	
1	2021.20	36	115	2.63	2021.24	2014	13	116.8		
0	2052.37	42	127	1.35	2052.41	2049	8	97.7		
0	2064.74	24	69	2.05	2064.79	2061	7	120.8		
2	2109.45	31	68	2.93	2109.51	2106	19	95.0	1.97E+00	
2	2119.03	658	64	2.79	2119.09	2106	19	8.9		
0	2191.19	53	79	6.25	2191.27	2187	10	67.9		
0	2204.65	2472	134	2.49	2204.73	2198	14	4.5		BI-214
0	2236.14	25	36	3.02	2236.22	2229	11	100.3		
0	2293.97	125	67	2.61	2294.06	2289	13	32.7		
0	2336.37	49	42	8.56	2336.47	2322	29	82.0		
0	2366.01	14	16	8.12	2366.12	2360	11	122.9		
0	2448.05	653	28	2.46	2448.17	2444	11	8.4		
0	2547.93	13	0	4.87	2548.08	2545	7	55.5		
0	2615.36*	69	2	2.18	2615.52	2611	11	26.8		
0	2695.47	21	3	2.72	2695.65	2690	13	55.0		
0	3000.36	5	0	1.70	3000.60	2998	5	89.4		

Sample ID : 1201163-03 Acquisition date : 22-FEB-2012 10:27:59

Total number of lines in spectrum	123	
Number of unidentified lines	76	
Number of lines tentatively identified by NID	47	38.21%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.273E+01	2.273E+01	0.391E+01	17.20	
PB-210	22.26Y	1.00	1.056E+02	1.058E+02	0.105E+02	9.92	
PB-211	3.28E+04Y	1.00	1.572E+01	1.572E+01	0.479E+01	30.50	
BI-214	1602.00Y	1.00	1.552E+02	1.552E+02	0.076E+02	4.92	
PB-214	1602.00Y	1.00	1.554E+02	1.554E+02	0.101E+02	6.50	
RN-219	3.28E+04Y	1.00	9.880E+00	9.880E+00	3.354E+00	33.95	
RA-223	3.28E+04Y	1.00	1.221E+01	1.221E+01	0.464E+01	38.01	
RA-224	1.41E+10Y	1.00	2.926E+02	2.926E+02	0.273E+02	9.33	
RA-226	1602.00Y	1.00	3.457E+02	3.457E+02	6.332E+02	183.18	
PA-234M	4.47E+09Y	1.00	1.204E+02	1.204E+02	0.372E+02	30.90	
TH-234	4.47E+09Y	1.00	8.940E+01	8.940E+01	0.984E+01	11.01	
U-235	7.04E+08Y	1.00	8.175E+00	8.175E+00	3.284E+00	40.18	
			---------	---------			
	Total Activity :		1.333E+03	1.333E+03			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
GA-67	3.26D	224.	7.895E+00	1.767E+03	4.700E+03	265.94	
NB-95M	3.61D	133.	4.674E+00	6.202E+02	1.169E+02	18.84	
			---------	---------			
	Total Activity :		1.257E+01	2.388E+03			

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CE-141	32.50D	1.72	1.905E+00	3.279E+00	1.198E+00	36.56	
			---------	---------			
	Total Activity :		1.905E+00	3.279E+00			

Grand Total Activity : 1.347E+03 3.724E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Nuclide Line Activity Report Page : 5
Sample ID : 1201163-03 Acquisition date : 22-FEB-2012 10:27:59

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
K-40	1460.81	10.67*	5.027E-01	2.273E+01	2.273E+01	17.20	OK
	Final Mean for 1 Valid Peaks = 2.273E+01+/- 3.909E+00 (17.20%)						
PB-210	46.50	4.25*	2.613E+00	1.056E+02	1.058E+02	9.92	OK
	Final Mean for 1 Valid Peaks = 1.058E+02+/- 1.049E+01 (9.92%)						
PB-211	404.84	2.90*	1.375E+00	1.669E+01	1.669E+01	45.14	OK
	831.96	2.90	7.710E-01	1.506E+01	1.506E+01	41.28	OK
	Final Mean for 2 Valid Peaks = 1.572E+01+/- 4.794E+00 (30.50%)						
BI-214	609.31	46.30*	9.927E-01	1.425E+02	1.425E+02	10.17	OK
	1120.29	15.10	6.104E-01	1.493E+02	1.493E+02	9.36	OK
	1764.49	15.80	4.432E-01	1.695E+02	1.695E+02	9.28	OK
	2204.22	4.98	3.885E-01	1.654E+02	1.654E+02	10.69	OK
	Final Mean for 4 Valid Peaks = 1.552E+02+/- 7.642E+00 (4.92%)						
PB-214	295.21	19.19	1.736E+00	1.551E+02	1.551E+02	9.17	OK
	351.92	37.19*	1.529E+00	1.557E+02	1.558E+02	9.22	OK
	Final Mean for 2 Valid Peaks = 1.554E+02+/- 1.011E+01 (6.50%)						
RN-219	401.80	6.50*	1.383E+00	9.880E+00	9.880E+00	33.95	OK
	Final Mean for 1 Valid Peaks = 9.880E+00+/- 3.354E+00 (33.95%)						
RA-223	323.87	3.88*	1.626E+00	1.221E+01	1.221E+01	38.01	OK
	Final Mean for 1 Valid Peaks = 1.221E+01+/- 4.640E+00 (38.01%)						
RA-224	240.98	3.95*	1.987E+00	2.926E+02	2.926E+02	9.33	OK
	Final Mean for 1 Valid Peaks = 2.926E+02+/- 2.731E+01 (9.33%)						
RA-226	186.21	3.28*	2.308E+00	3.457E+02	3.457E+02	183.18	OK
	Final Mean for 1 Valid Peaks = 3.457E+02+/- 6.332E+02 (183.18%)						
PA-234M	1001.03	0.92*	6.658E-01	1.204E+02	1.204E+02	30.90	OK
	Final Mean for 1 Valid Peaks = 1.204E+02+/- 3.720E+01 (30.90%)						
TH-234	63.29	3.80*	2.884E+00	8.940E+01	8.940E+01	11.01	OK
	Final Mean for 1 Valid Peaks = 8.940E+01+/- 9.843E+00 (11.01%)						

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
U-235	143.76	10.50*	2.601E+00	8.741E+00	8.741E+00	33.43	<<WM Interf
	163.35	4.70	2.462E+00	8.094E+00	8.094E+00	62.02	OK
	205.31	4.70	2.188E+00	8.235E+00	8.235E+00	52.74	OK

Final Mean for 2 Valid Peaks = 8.175E+00+/- 3.284E+00 (40.18%)

Nuclide Type: ACTIVATION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
GA-67	93.31	35.70*	2.914E+00	1.468E+01	3.286E+03	350.48	OK
	208.95	2.24	2.166E+00	-----	Line Not Found	-----	Absent
	300.22	16.00	1.716E+00	6.539E+00	1.464E+03	351.71	OK

Final Mean for 2 Valid Peaks = 1.767E+03+/- 4.700E+03 (265.94%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
NB-95M	235.69	25.00*	2.015E+00	4.674E+00	6.202E+02	18.84	OK

Final Mean for 1 Valid Peaks = 6.202E+02+/- 1.169E+02 (18.84%)

Nuclide Type: FISSION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
CE-141	145.44	48.40*	2.589E+00	1.905E+00	3.279E+00	36.56	OK

Final Mean for 1 Valid Peaks = 3.279E+00+/- 1.198E+00 (36.56%)

Flag: "*" = Keyline

Sample ID : 1201163-03 Acquisition date : 22-FEB-2012 10:27:59

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.273E+01	3.909E+00	3.048E+00	2.585E-01	7.456
GA-67	1.767E+03	4.700E+03	1.953E+02	6.842E+02	9.052
NB-95M	6.202E+02	1.169E+02	1.460E+02	1.195E+01	4.249
CE-141	3.279E+00	1.198E+00	1.032E+00	2.374E-01	3.177
PB-210	1.058E+02	1.049E+01	6.242E+00	4.818E-01	16.948
PB-211	1.572E+01	4.794E+00	9.867E+00	8.204E-01	1.593
BI-214	1.552E+02	7.642E+00	5.587E-01	5.196E-02	277.759
PB-214	1.554E+02	1.011E+01	7.148E-01	5.912E-02	217.469
RN-219	9.880E+00	3.354E+00	4.374E+00	3.626E-01	2.259
RA-223	1.221E+01	4.640E+00	7.017E+00	5.787E-01	1.740
RA-224	2.926E+02	2.731E+01	7.071E+00	5.789E-01	41.378
RA-226	3.457E+02	6.332E+02	9.000E+00	1.648E+01	38.410
PA-234M	1.204E+02	3.720E+01	3.371E+01	2.732E+00	3.572
TH-234	8.940E+01	9.843E+00	8.361E+00	6.194E-01	10.693
U-235	8.175E+00	3.284E+00	2.749E+00	4.848E-01	2.973

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	7.697E-01		2.511E+00	3.566E+00	3.144E-01	0.216
NA-22	1.605E-01		2.143E-01	3.225E-01	2.639E-02	0.498
AL-26	4.597E-02		1.184E-01	1.993E-01	1.592E-02	0.231
TI-44	6.540E-01	+	2.162E-01	3.575E-01	2.801E-02	1.829
SC-46	4.820E-03		2.383E-01	3.985E-01	3.189E-02	0.012
V-48	-1.098E-01		5.725E-01	9.500E-01	7.677E-02	-0.116
CR-51	-4.029E+00		3.625E+00	5.096E+00	4.442E-01	-0.791
MN-54	3.987E-01		2.186E-01	3.375E-01	2.864E-02	1.181
CO-56	-1.031E-01		2.558E-01	3.798E-01	3.186E-02	-0.271
CO-57	-5.507E-03		2.050E-01	3.297E-01	3.182E-02	-0.017
CO-58	5.010E-02		2.532E-01	3.827E-01	3.325E-02	0.131
FE-59	5.772E-01		6.777E-01	8.220E-01	7.329E-02	0.702
CO-60	5.142E-02		2.031E-01	3.221E-01	2.634E-02	0.160
ZN-65	3.367E-01		4.651E-01	7.009E-01	5.744E-02	0.480
SE-75	-1.822E-01		4.201E-01	5.272E-01	4.329E-02	-0.346
RB-82	-1.172E+00		3.120E+00	4.252E+00	3.780E-01	-0.276
RB-83	-7.952E-02		4.392E-01	6.723E-01	1.067E-01	-0.118
KR-85	1.363E+02		4.164E+01	6.417E+01	5.779E+00	2.123
SR-85	7.785E-01		2.379E-01	3.667E-01	3.302E-02	2.123
Y-88	3.083E-01		1.607E-01	2.983E-01	2.370E-02	1.033
NB-93M	-6.609E+01		1.507E+01	2.087E-01	4.644E-02	-316.701
NB-94	1.422E-01		2.080E-01	3.163E-01	2.585E-02	0.450
NB-95	5.943E+00		7.026E-01	7.404E-01	6.630E-02	8.027
ZR-95	-4.616E-01		3.891E-01	6.366E-01	6.265E-02	-0.725
RU-103	-1.885E-01		2.628E-01	4.428E-01	6.354E-02	-0.426
RU-106	-1.665E-01		1.738E+00	2.646E+00	3.657E-01	-0.063
AG-108M	3.151E-01		2.016E-01	3.126E-01	2.862E-02	1.008
CD-109	5.273E+01		9.237E+00	1.026E+01	1.192E+00	5.139

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AG-110M	1.218E-01		1.889E-01	2.912E-01	2.720E-02	0.418
SN-113	2.504E-01		3.288E-01	5.138E-01	4.360E-02	0.487
TE123M	2.793E-01		3.154E-01	4.091E-01	3.387E-02	0.683
SB-124	1.204E-01		2.453E-01	3.775E-01	3.507E-02	0.319
I-125	-6.057E+00		3.456E+00	5.549E+00	5.034E-01	-1.092
SB-125	1.185E+00	+	7.320E-01	1.038E+00	8.987E-02	1.142
SB-126	4.403E+00	+	1.863E+00	2.283E+00	2.092E-01	1.929
SN-126	1.905E-01		6.569E-01	9.834E-01	9.774E-02	0.194
SB-127	2.080E+01		4.691E+01	7.191E+01	6.677E+00	0.289
I-129	-1.130E+00		3.465E-01	5.200E-01	5.460E-02	-2.172
I-131	-1.959E+00		1.825E+00	2.787E+00	2.303E-01	-0.703
TE-132	-2.948E+01		4.560E+01	7.154E+01	5.856E+00	-0.412
BA-133	2.635E+00	+	6.024E-01	7.077E-01	9.183E-02	3.723
CS-134	3.040E-01	+	9.476E-02	3.096E-01	2.884E-02	0.982
CS-135	7.586E+00		1.398E+00	1.882E+00	1.531E-01	4.032
CS-136	-9.004E-02		9.921E-01	1.469E+00	1.237E-01	-0.061
CS-137	1.518E-01		2.001E-01	3.088E-01	2.888E-02	0.492
LA-138	9.558E-02		3.023E-01	4.993E-01	4.103E-02	0.191
CE-139	5.171E-01		2.816E-01	4.144E-01	3.313E-02	1.248
BA-140	2.963E+00		3.593E+00	4.323E+00	1.438E+00	0.685
LA-140	1.984E+00		9.008E-01	1.469E+00	1.205E-01	1.351
CE-144	-1.679E+00		1.691E+00	2.683E+00	2.480E-01	-0.626
PM-144	1.305E-02		2.331E-01	2.814E-01	2.605E-02	0.046
PM-145	-8.420E-01		9.303E-01	1.229E+00	8.004E-01	-0.685
PM-146	8.424E-01	+	5.545E-01	7.019E-01	6.087E-02	1.200
ND-147	5.191E+00	+	4.117E+00	9.878E+00	8.969E-01	0.525
EU-152	2.284E+01	+	3.383E+00	3.666E+00	3.882E-01	6.230
GD-153	-1.032E+00		7.754E-01	1.230E+00	1.203E-01	-0.839
EU-154	4.245E-01		5.949E-01	8.943E-01	7.319E-02	0.475
EU-155	1.069E+01		1.411E+00	1.206E+00	1.184E-01	8.863
EU-156	1.540E+00		5.947E+00	8.991E+00	2.055E+00	0.171
HO-166M	-4.707E-02		3.595E-01	4.964E-01	4.567E-02	-0.095
HF-172	-1.005E+00		1.515E+00	2.419E+00	2.302E-01	-0.415
LU-172	5.240E-01		4.562E+00	6.786E+00	5.551E-01	0.077
LU-173	9.702E+00		1.322E+00	1.577E+00	1.282E-01	6.151
HF-175	-1.398E-02		3.393E-01	4.235E-01	3.502E-02	-0.033
LU-176	-2.607E-02		2.013E-01	2.891E-01	2.372E-02	-0.090
TA-182	7.542E+01	+	7.063E+00	3.608E+00	2.953E-01	20.905
IR-192	4.404E-01	+	4.966E-01	7.037E-01	6.165E-02	0.626
HG-203	-7.433E-02		3.591E-01	5.170E-01	4.322E-02	-0.144
BI-207	9.724E-02		1.625E-01	2.783E-01	2.564E-02	0.349
TL-208	1.105E+00		6.139E-01	9.530E-01	8.814E-02	1.160
BI-210M	6.267E-01		4.863E-01	6.228E-01	5.080E-02	1.006
BI-212	9.735E-01		1.473E+00	2.261E+00	2.067E-01	0.431
PB-212	3.493E+00		5.266E-01	7.058E-01	5.779E-02	4.950
RA-225	-1.395E+00		1.830E+00	2.766E+00	2.315E-01	-0.504
TH-227	1.017E+01	+	1.916E+00	2.700E+00	2.211E-01	3.766
AC-228	3.669E-01		7.133E-01	1.201E+00	9.542E-02	0.306

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.668E+02	+	5.514E+01	9.107E+01	7.116E+00	1.832
PA-231	1.928E+01		8.621E+00	1.249E+01	1.024E+00	1.543
TH-231	1.678E+00		1.464E+00	2.423E+00	2.961E-01	0.693
PA-233	-8.426E-02		8.591E-01	1.342E+00	2.994E-01	-0.063
PA-234	2.868E-01		8.264E-01	1.329E+00	1.239E-01	0.216
NP-237	2.595E+01		3.427E+00	2.929E+00	2.875E-01	8.860
AM-241	1.399E+00		6.477E-01	8.629E-01	6.111E-02	1.621
AM-243	1.396E+01		1.374E+00	6.972E-01	5.933E-02	20.030
CM-243	1.616E+00		1.378E+00	2.007E+00	1.627E-01	0.805

Sample ID : 1201163-03   Acquisition date : 22-FEB-2012 10:27:59

Total number of lines in spectrum	123	
Number of unidentified lines	76	
Number of lines tentatively identified by NID	47	38.21%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.273E+01	2.273E+01	0.391E+01	17.20	
PB-210	22.26Y	1.00	1.056E+02	1.058E+02	0.105E+02	9.92	
PB-211	3.28E+04Y	1.00	1.572E+01	1.572E+01	0.479E+01	30.50	
BI-214	1602.00Y	1.00	1.552E+02	1.552E+02	0.076E+02	4.92	
PB-214	1602.00Y	1.00	1.554E+02	1.554E+02	0.101E+02	6.50	
RN-219	3.28E+04Y	1.00	9.880E+00	9.880E+00	3.354E+00	33.95	
RA-223	3.28E+04Y	1.00	1.221E+01	1.221E+01	0.464E+01	38.01	
RA-224	1.41E+10Y	1.00	2.926E+02	2.926E+02	0.273E+02	9.33	
RA-226	1602.00Y	1.00	3.457E+02	3.457E+02	6.332E+02	183.18	
PA-234M	4.47E+09Y	1.00	1.204E+02	1.204E+02	0.372E+02	30.90	
TH-234	4.47E+09Y	1.00	8.940E+01	8.940E+01	0.984E+01	11.01	
U-235	7.04E+08Y	1.00	8.175E+00	8.175E+00	3.284E+00	40.18	
			---------	---------			
	Total Activity :		1.333E+03	1.333E+03			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
GA-67	3.26D	224.	7.895E+00	1.767E+03	4.700E+03	265.94	
NB-95M	3.61D	133.	4.674E+00	6.202E+02	1.169E+02	18.84	
			---------	---------			
	Total Activity :		1.257E+01	2.388E+03			

Nuclide Type : FISSION

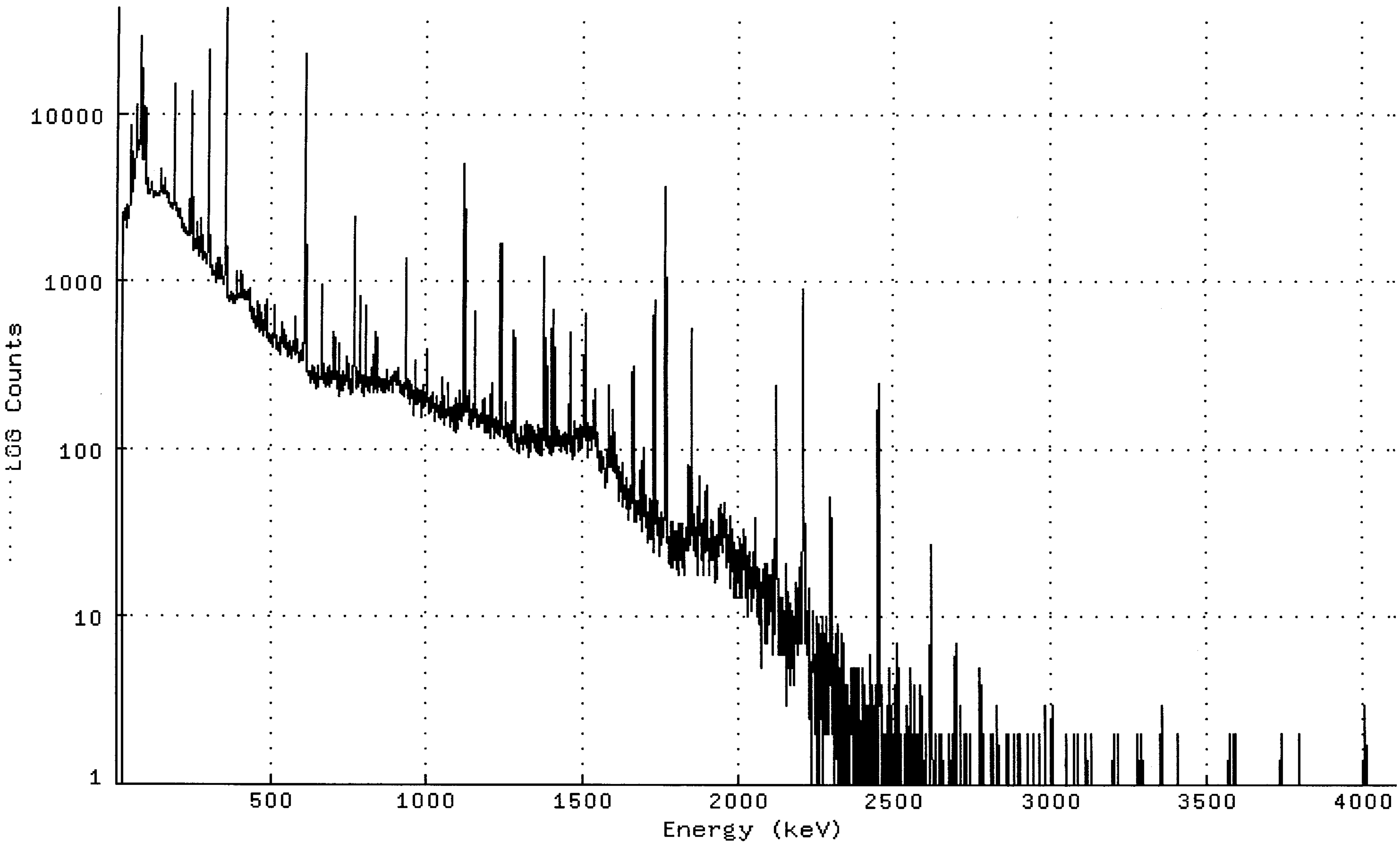
Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CE-141	32.50D	1.72	1.905E+00	3.279E+00	1.198E+00	36.56	
			---------	---------			
	Total Activity :		1.905E+00	3.279E+00			

Grand Total Activity :	1.347E+03	3.724E+03

Flags: "K" = Keyline not found   "M" = Manually accepted
"E" = Manually edited   "A" = Nuclide specific abn. limit

Spectrum : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116303_GE1_GAS1102_176236.CNF;1
Title :
Sample Title: JM-70-32-120128

Start Time: 22-FEB-2012 10:27	Sample Time: 28-JAN-2012 00:00	Energy Offset: 3.84457E-01
Real Time : 0 01:00:44.07	Sample ID : 1201163-03	Energy Slope : 9.99792E-01
Live Time : 0 01:00:00.00	Sample Type: SOLID	Energy Quad : 0.00000E+00



Channel Contents for DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116303_GE1_GAS1102_1762

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17:	0	9	2008	2492	2295	2457	2631	2377
25:	2403	2345	2345	2254	2209	2068	2349	2775
33:	2314	2289	2336	2578	2558	2525	2519	2698
41:	2797	2967	2994	3308	3712	8373	7087	3384
49:	3621	4351	3798	4036	5727	4488	4053	4216
57:	4210	4697	5095	5481	5704	6259	10924	7696
65:	5757	5910	6532	6805	6009	6086	6163	6389
73:	6886	11648	18757	11819	28397	12099	6989	6471
81:	7098	5237	6097	8525	5252	5573	10920	7746
89:	5432	7050	4863	8341	10472	5262	4842	3695
97:	3622	4064	3716	3327	3321	3283	3390	3335
105:	3238	3405	3272	3294	3419	3444	3455	3645
113:	3804	3444	3291	3268	3218	3223	3149	3081
121:	3300	3375	3317	3171	3362	3240	3178	3281
129:	3204	3308	3278	3214	3267	3201	3248	3393
137:	3361	3347	3295	3512	3387	3398	3681	4620
145:	3797	3422	3285	3407	3455	3376	3543	3471
153:	3559	4044	3838	3363	3312	3326	3310	3257
161:	3089	3069	3284	3231	3075	3014	2897	2904
169:	2915	2907	2787	2733	2752	2805	2710	2826
177:	2810	2680	2887	2834	2769	2775	2803	3136
185:	5272	14666	7814	2953	2825	2806	2668	2648
193:	2719	2592	2626	2631	2543	2513	2424	2453
201:	2521	2504	2369	2323	2624	2478	2231	2105
209:	2181	2108	2137	2076	2147	2075	2019	1970
217:	1988	2027	1997	2032	1982	1979	1981	2033
225:	1907	1927	1887	1889	1858	1933	1839	1888
233:	1868	1875	2080	3008	2161	2012	2118	1898
241:	4292	13354	5343	1853	1807	1805	1717	1557
249:	1494	1564	1522	1591	1554	1580	1588	1969
257:	1847	1741	2196	1661	1559	1460	1479	1452
265:	1469	1413	1394	1463	2212	2339	2297	1901
273:	1465	1711	1867	1463	1330	1346	1336	1364
281:	1403	1368	1387	1466	1352	1461	1405	1372
289:	1247	1261	1324	1366	1552	4406	23595	14774
297:	2087	1553	1681	1841	1271	1185	1303	1229
305:	1236	1155	1152	1060	1116	1101	1083	1095
313:	1142	1118	1121	1115	1079	1068	1042	1004
321:	965	1048	1157	1338	1096	1064	1008	1098
329:	1133	1358	1076	1060	1028	1118	1094	1046
337:	1058	1223	1229	1043	1011	1013	944	1035
345:	989	1026	1028	1062	1314	1981	13317	42634
353:	13895	1682	1518	1588	1124	799	821	788
361:	816	766	767	743	742	738	759	791
369:	802	756	775	852	799	766	747	809
377:	734	809	769	782	732	787	803	797
385:	760	869	1025	966	1142	850	786	788
393:	834	821	820	837	826	791	780	823
401:	925	1134	960	844	1068	953	842	809
409:	778	847	794	860	825	798	767	812
417:	840	804	781	805	759	789	816	781
425:	818	759	843	902	770	734	660	689

433:	685	664	686	663	621	595	611	657
441:	635	567	565	602	678	652	552	523
449:	607	581	567	574	573	630	744	657
457:	531	542	566	522	616	716	569	498
465:	547	504	542	529	527	640	520	496
473:	526	570	558	462	513	510	538	683
481:	706	503	495	485	460	517	765	645
489:	474	472	447	444	483	467	434	450
497:	424	428	439	418	457	483	411	395
505:	405	431	428	470	501	630	705	611
513:	491	444	462	388	416	413	401	412
521:	383	402	424	390	399	457	385	426
529:	357	382	441	417	464	566	456	461
537:	461	430	404	411	419	395	446	503
545:	430	408	385	423	397	417	355	371
553:	415	383	392	418	375	434	358	366
561:	367	398	387	394	382	344	378	379
569:	418	437	378	400	412	378	396	393
577:	381	357	419	613	490	403	419	409
585:	369	386	378	368	370	328	361	351
593:	348	367	330	377	348	374	377	373
601:	353	335	354	420	398	420	672	3676
609:	22458	22322	3285	830	866	737	393	331
617:	299	288	273	278	283	289	285	274
625:	287	276	286	257	281	242	264	265
633:	305	265	285	301	276	243	272	301
641:	277	267	274	265	225	281	262	255
649:	307	263	260	234	268	244	257	266
657:	267	267	266	266	260	287	287	349
665:	781	946	384	267	284	273	251	261
673:	254	235	279	276	259	258	253	236
681:	284	252	266	300	272	251	231	306
689:	274	255	242	249	255	248	257	244
697:	283	286	288	280	258	342	496	422
705:	299	284	256	270	265	294	249	228
713:	259	262	234	283	205	274	318	423
721:	308	252	274	253	223	237	225	255
729:	283	261	223	258	227	258	266	259
737:	249	244	241	247	301	350	332	326
745:	248	291	269	239	267	256	228	247
753:	314	215	253	229	237	231	207	237
761:	220	260	244	216	266	374	652	2055
769:	2413	649	322	289	267	252	224	234
777:	236	230	232	235	272	242	288	248
785:	388	796	529	276	246	271	241	270
793:	212	241	251	261	221	228	270	255
801:	204	228	230	274	331	702	654	309
809:	234	260	218	241	242	259	217	246
817:	226	230	250	237	291	273	236	237
825:	237	304	289	247	224	213	245	361
833:	285	241	279	264	229	313	492	430
841:	263	229	261	217	234	230	257	260
849:	249	265	241	259	252	236	223	229
857:	232	240	217	248	260	250	227	216
865:	254	232	240	255	217	239	224	293
873:	272	248	270	240	219	245	222	253
881:	240	247	238	267	239	261	254	238
889:	267	215	265	268	249	252	256	251
897:	258	280	276	282	241	250	258	281
905:	285	244	237	250	244	257	272	301

913:	213	226	224	242	236	242	237	228
921:	209	223	231	224	224	243	218	225
929:	221	223	205	241	522	1361	1108	379
937:	245	249	256	223	201	232	229	233
945:	222	237	249	225	186	210	204	204
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969:	223	199	211	183	226	185	194	203
977:	219	188	217	195	194	218	154	202
985:	222	199	176	195	212	209	181	238
993:	188	186	188	215	177	191	188	260
1001:	394	394	231	206	199	186	167	199
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1057:	196	151	140	157	160	170	169	155
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1073:	141	154	166	133	160	175	160	144
1081:	160	167	174	162	147	152	128	153
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1113:	171	185	145	164	172	216	897	3885
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1161:	152	136	161	137	146	139	143	134
1169:	158	156	141	148	163	151	141	145
1177:	142	148	140	149	149	187	197	138
1185:	160	141	124	160	154	151	123	145
1193:	137	152	129	137	147	124	134	158
1201:	131	132	119	114	149	138	178	246
1209:	212	138	151	143	133	141	115	120
1217:	122	151	146	155	139	125	136	126
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1233:	117	130	134	147	532	1657	1677	525
1241:	180	163	174	132	124	116	121	135
1249:	118	129	119	147	180	189	171	148
1257:	129	110	141	117	120	116	117	119
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1273:	112	146	134	127	126	143	134	249
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1289:	121	122	95	114	105	113	102	94
1297:	109	97	100	133	120	107	113	133
1305:	129	109	102	119	99	115	110	106
1313:	106	118	113	118	130	146	117	118
1321:	112	104	102	113	108	105	89	121
1329:	139	105	102	114	96	118	107	138
1337:	111	108	132	116	125	133	121	113
1345:	103	102	129	100	115	114	116	120
1353:	95	106	100	124	126	139	94	96
1361:	132	107	112	93	108	91	103	91
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1393:	119	113	106	102	93	104	91	133
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1489:	125	131	123	99	119	138	120	133
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1529:	99	108	124	117	115	114	115	135
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1561:	96	80	85	90	88	86	81	81
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1577:	82	80	63	67	81	122	214	239
1585:	122	89	82	79	87	92	79	88
1593:	100	100	143	97	81	75	142	169
1601:	93	80	83	84	72	72	73	92
1609:	82	81	67	81	76	64	61	73
1617:	49	66	67	73	70	66	67	56
1625:	53	60	57	82	48	45	51	58
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1641:	44	48	67	38	57	39	56	50
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1673:	41	41	45	41	41	49	41	45
1681:	54	41	44	67	75	42	32	36
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1697:	53	40	53	34	43	50	38	34
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1713:	32	29	41	47	41	32	29	45
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1761:	41	81	505	2083	3648	2288	497	152
1769:	116	65	35	28	29	25	22	22
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1793:	22	28	27	32	25	32	28	26
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1841:	43	31	29	27	27	104	319	524
1849:	344	92	31	44	39	25	25	29
1857:	36	31	34	31	23	28	28	29
1865:	25	29	20	45	18	23	40	38

1873:	68	64	36	38	35	25	22	36
1881:	29	32	25	28	18	27	38	19
1889:	29	40	56	40	30	30	42	60
1897:	52	41	45	34	26	23	29	25
1905:	23	18	23	22	29	25	38	25
1913:	29	26	28	22	37	26	22	27
1921:	16	29	26	30	20	26	17	28
1929:	31	23	21	33	23	24	28	44
1937:	38	47	47	34	29	29	28	27
1945:	34	24	41	39	27	39	36	34
1953:	31	30	31	48	30	20	31	32
1961:	36	28	31	27	31	30	30	30
1969:	15	40	24	27	26	25	25	30
1977:	31	22	33	20	17	28	13	20
1985:	17	14	24	25	17	18	13	23
1993:	16	24	16	21	17	25	16	20
2001:	29	13	24	24	16	13	15	16
2009:	27	22	24	30	21	20	25	19
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2033:	15	24	21	15	16	20	11	15
2041:	15	12	15	13	14	24	15	16
2049:	18	15	24	24	39	19	20	10
2057:	20	17	16	14	9	13	14	17
2065:	19	9	12	5	15	16	13	14
2073:	15	13	19	13	13	14	16	14
2081:	7	21	10	14	20	13	7	12
2089:	16	21	13	9	11	18	13	10
2097:	13	13	12	17	18	14	11	14
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2121:	59	23	12	6	7	17	11	10
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2137:	11	9	9	6	8	9	10	11
2145:	6	7	11	21	16	3	6	6
2153:	14	9	5	9	5	12	7	6
2161:	4	7	12	10	6	8	11	5
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2185:	14	7	6	15	14	11	19	20
2193:	16	15	7	9	9	7	16	12
2201:	10	60	283	721	892	409	85	39
2209:	34	23	15	7	10	12	10	9
2217:	8	6	10	8	6	5	7	8
2225:	15	6	1	3	4	3	3	5
2233:	6	6	6	9	6	11	2	4
2241:	4	5	5	6	6	5	10	1
2249:	6	7	0	9	2	0	8	3
2257:	4	5	7	8	5	7	6	1
2265:	4	4	10	7	6	4	8	7
2273:	5	2	5	10	5	6	3	2
2281:	8	3	2	5	2	7	6	4
2289:	7	8	4	19	41	51	29	14
2297:	5	6	2	2	4	6	5	1
2305:	4	1	2	8	4	2	7	5
2313:	3	6	9	1	1	2	5	1
2321:	2	2	4	2	1	2	1	3
2329:	7	8	1	7	7	5	3	3
2337:	5	3	2	4	2	1	4	2
2345:	1	4	1	3	3	0	2	3

2353:	2	2	2	3	5	2	2	2
2361:	4	4	3	1	0	5	2	5
2369:	3	1	1	1	4	3	1	3
2377:	3	5	3	2	1	5	4	1
2385:	1	4	0	1	2	1	1	2
2393:	3	2	0	4	5	3	2	0
2401:	2	4	2	2	2	0	1	0
2409:	3	1	1	2	1	3	1	3
2417:	2	3	2	0	1	6	3	1
2425:	4	2	1	0	3	1	1	3
2433:	2	2	1	2	4	1	3	1
2441:	3	3	1	1	14	33	121	242
2449:	192	52	11	9	3	3	4	2
2457:	3	1	1	1	0	2	1	0
2465:	2	1	0	0	1	2	2	0
2473:	3	1	1	2	2	1	1	3
2481:	0	2	5	2	1	3	0	2
2489:	3	0	1	0	1	2	2	1
2497:	1	0	4	2	2	2	1	1
2505:	0	2	7	1	5	3	1	1
2513:	0	1	0	0	0	2	0	2
2521:	0	1	0	1	0	1	1	1
2529:	1	2	1	1	2	0	2	3
2537:	0	0	1	1	1	2	1	0
2545:	0	5	0	1	3	4	0	0
2553:	0	2	0	1	0	0	1	1
2561:	0	1	4	1	2	0	2	1
2569:	0	0	0	0	0	0	2	0
2577:	0	3	0	3	0	4	3	0
2585:	2	0	1	2	0	0	0	0
2593:	1	1	1	0	2	0	1	0
2601:	1	1	0	0	1	1	1	0
2609:	1	1	0	1	6	8	27	21
2617:	7	3	2	1	0	0	1	0
2625:	0	0	1	1	0	2	1	1
2633:	1	1	1	0	0	0	0	0
2641:	2	1	0	0	0	0	1	0
2649:	1	2	1	0	0	0	0	0
2657:	1	0	0	0	0	1	0	0
2665:	1	0	1	1	1	1	0	0
2673:	2	0	0	1	0	1	1	0
2681:	2	0	1	1	0	2	0	2
2689:	1	0	0	0	5	7	4	3
2697:	1	1	1	1	1	0	0	0
2705:	0	1	2	0	2	3	0	0
2713:	1	0	0	0	0	0	2	2
2721:	0	0	0	0	0	1	1	2
2729:	0	1	0	1	0	0	1	1
2737:	1	0	0	2	0	0	0	0
2745:	1	0	1	1	0	0	0	0
2753:	1	1	1	0	1	0	0	1
2761:	1	0	1	1	0	0	0	1
2769:	1	5	0	2	4	2	2	0
2777:	0	1	0	0	2	0	0	1
2785:	0	1	1	0	0	1	0	0
2793:	1	0	0	0	0	1	0	0
2801:	0	0	0	1	1	1	2	0
2809:	1	2	1	0	1	1	0	1
2817:	0	0	0	0	0	0	0	1
2825:	2	0	0	3	0	0	0	0

2833:	0	1	0	1	0	1	1	1
2841:	0	0	0	1	1	0	0	0
2849:	0	0	0	0	0	1	0	0
2857:	2	1	1	0	0	0	2	2
2865:	0	1	0	0	0	0	0	1
2873:	0	0	0	0	0	0	0	1
2881:	2	0	0	1	1	0	1	0
2889:	0	0	1	1	1	2	1	0
2897:	0	1	1	2	0	0	1	1
2905:	1	0	0	0	0	0	0	1
2913:	0	1	0	0	0	0	0	1
2921:	0	2	2	0	0	1	0	0
2929:	0	1	1	0	1	1	1	0
2937:	0	0	0	1	1	0	2	0
2945:	0	1	0	0	0	0	0	1
2953:	0	0	0	0	0	0	2	1
2961:	1	0	0	0	0	0	0	0
2969:	1	0	0	1	0	0	0	0
2977:	1	0	3	0	0	0	1	0
2985:	0	0	0	0	0	1	0	1
2993:	0	1	0	2	0	0	0	2
3001:	3	0	0	0	0	1	1	0
3009:	0	1	0	0	0	0	0	0
3017:	0	0	0	0	0	0	1	0
3025:	0	1	0	0	0	0	0	1
3033:	0	1	0	0	0	1	0	1
3041:	0	1	1	0	0	0	2	0
3049:	0	0	1	0	0	1	0	1
3057:	0	1	0	1	1	0	1	0
3065:	0	1	0	1	0	2	0	0
3073:	1	0	0	0	0	0	0	1
3081:	1	0	0	1	2	0	1	0
3089:	0	1	1	0	1	0	0	0
3097:	0	0	1	0	1	0	0	0
3105:	0	0	0	0	0	2	0	0
3113:	0	0	0	0	0	0	0	1
3121:	0	1	0	2	0	0	0	1
3129:	0	1	1	0	0	0	0	0
3137:	0	0	0	0	0	1	0	0
3145:	1	0	1	0	0	1	0	0
3153:	0	1	0	0	1	0	0	0
3161:	0	0	0	0	0	0	1	0
3169:	0	0	0	0	0	0	0	0
3177:	0	0	0	0	1	0	0	0
3185:	1	0	0	0	0	0	0	0
3193:	1	0	0	0	2	0	0	0
3201:	0	0	1	0	0	0	0	0
3209:	0	0	0	2	1	1	0	1
3217:	0	0	0	0	0	0	0	0
3225:	0	0	0	0	1	0	0	0
3233:	0	0	0	0	0	0	1	0
3241:	1	0	0	0	1	0	0	0
3249:	0	0	1	0	0	0	0	0
3257:	0	0	0	0	0	0	0	0
3265:	0	0	0	0	0	0	0	0
3273:	0	0	0	2	0	0	0	0
3281:	0	0	0	1	0	0	0	2
3289:	0	0	0	1	0	0	0	1
3297:	0	1	0	0	0	0	0	0
3305:	0	0	0	0	0	0	0	0

3313:	1	0	0	0	0	1	1	0
3321:	0	0	0	1	0	0	0	1
3329:	0	0	0	0	0	0	0	0
3337:	0	0	0	0	0	1	0	0
3345:	0	0	0	1	2	0	0	0
3353:	3	0	0	0	1	0	0	0
3361:	0	0	0	0	0	0	1	0
3369:	0	1	0	0	0	0	0	0
3377:	0	1	0	0	0	1	0	0
3385:	0	0	1	0	0	0	0	1
3393:	0	0	0	0	0	0	0	0
3401:	0	2	1	0	1	0	0	0
3409:	0	0	0	0	1	0	0	0
3417:	1	0	0	0	0	0	0	0
3425:	0	0	0	0	0	0	0	0
3433:	0	0	0	0	0	0	0	0
3441:	0	0	0	0	0	1	0	0
3449:	0	0	0	0	0	0	0	0
3457:	0	0	0	0	1	0	0	0
3465:	0	0	1	0	0	0	0	1
3473:	1	0	0	0	0	0	0	0
3481:	0	0	0	1	0	0	0	0
3489:	0	0	1	0	0	0	0	0
3497:	0	0	0	1	1	0	0	0
3505:	0	0	1	0	0	0	0	0
3513:	1	0	0	1	0	0	0	0
3521:	1	0	0	0	0	0	0	1
3529:	0	0	0	0	0	0	0	0
3537:	0	0	1	0	0	0	0	0
3545:	0	0	0	0	1	0	1	0
3553:	0	0	0	0	0	0	0	0
3561:	0	0	0	0	2	0	0	0
3569:	0	0	0	0	0	0	0	0
3577:	1	0	0	2	0	0	0	1
3585:	1	0	2	0	0	0	0	0
3593:	1	0	0	0	0	0	0	0
3601:	0	1	0	0	0	0	0	0
3609:	0	0	0	0	0	0	0	0
3617:	0	0	0	0	0	0	0	0
3625:	0	1	0	0	0	0	0	0
3633:	0	0	0	1	0	0	0	0
3641:	0	0	0	0	0	0	0	0
3649:	0	0	1	0	0	0	0	0
3657:	0	0	0	0	0	1	0	0
3665:	0	0	1	0	0	0	0	0
3673:	0	0	0	1	0	0	0	0
3681:	0	0	0	0	0	0	0	0
3689:	0	0	0	0	0	0	0	0
3697:	0	0	0	1	0	1	1	0
3705:	0	0	0	0	0	0	0	0
3713:	0	0	0	0	0	0	0	0
3721:	0	1	0	0	0	0	0	0
3729:	0	0	2	0	1	0	0	1
3737:	0	0	0	0	0	0	1	0
3745:	0	0	0	0	0	0	1	0
3753:	0	0	0	0	1	0	0	1
3761:	0	0	0	0	0	0	0	0
3769:	0	1	0	0	0	1	0	0
3777:	0	0	0	0	0	0	0	0
3785:	0	1	0	2	0	0	0	0

3793:	0	0	0	0	0	0	0	0
3801:	0	1	0	0	0	0	0	0
3809:	0	0	1	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0
3825:	0	0	0	0	0	0	0	0
3833:	0	0	0	0	0	0	0	0
3841:	0	0	1	0	0	0	0	0
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	1	1	0	0	0
3865:	1	0	0	0	0	0	0	1
3873:	0	0	0	0	0	0	0	1
3881:	0	0	0	0	0	0	0	0
3889:	1	0	0	1	0	0	1	0
3897:	0	0	0	0	0	0	1	0
3905:	0	0	1	0	0	0	0	0
3913:	1	0	0	0	0	1	0	0
3921:	0	0	1	0	0	0	0	0
3929:	0	0	0	0	0	0	0	0
3937:	0	0	0	0	1	0	1	0
3945:	0	0	0	0	0	0	0	0
3953:	0	1	0	0	0	0	0	0
3961:	0	0	0	0	1	0	0	0
3969:	0	0	0	0	0	0	1	0
3977:	0	0	0	0	0	1	0	0
3985:	0	0	0	0	0	0	0	0
3993:	0	0	2	0	0	0	0	3
4001:	0	1	0	0	0	1	0	0
4009:	0	0	0	0	0	0	1	0
4017:	0	0	0	0	0	0	1	0
4025:	0	0	0	0	0	0	0	0
4033:	0	0	0	0	0	0	0	0
4041:	0	0	0	0	0	0	0	0
4049:	0	1	0	0	0	0	0	0
4057:	0	0	0	0	0	0	0	0
4065:	0	0	0	0	0	0	0	0
4073:	0	0	0	0	0	0	0	0
4081:	0	0	0	0	0	0	0	0
4089:	0	0	0	0	0	0	0	0

ICB 2/23/12

Sample ID : 1201163-04 Acquisition date : 22-FEB-2012 11:31:09

VAX/VMS Peak Search Report Generated 22-FEB-2012 12:32:04.36

Configuration : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116304_GE1_GAS1102_176247.
Analyses by : PEAK V16.9 ENBACK V1.6 PEAKEFF V2.2
Client ID : JM-70-32-120128
Deposition Date :
Sample Date : 28-JAN-2012 00:00:00 Acquisition date : 22-FEB-2012 11:31:09
Sample ID : 1201163-04 Sample Quantity : 5.79990E+02 gram
Sample type : SOLID Sample Geometry : 0
Detector name : GE1 Detector Geometry: GAS-1102
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:43.87 1.2%
Start channel : 5 End channel : 4096
Sensitivity : 2.40000 Gaussian : 15.00000
Critical level : Yes

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	32.21	714	11223	1.22	31.83	30	5	45.1		
0	46.66*	9051	16328	1.80	46.29	44	5	4.7		PB-210
0	53.12	2087	24133	1.14	52.74	50	6	23.9		
0	63.50*	7856	28277	1.44	63.13	61	5	6.8		TH-234
0	76.70*	57804	70336	2.92	76.33	71	12	2.0		
0	93.21*	12324	32008	1.72	92.84	90	7	5.2		GA-67
0	112.76	1076	20106	1.54	112.40	110	6	42.2		
0	144.35*	2045	16487	1.39	143.99	142	5	19.4		U-235 CE-141
0	154.24	922	20497	1.67	153.89	152	6	49.6		
0	164.30*	675	14992	1.28	163.95	162	5	55.1		U-235
0	186.49*	20099	25238	1.48	186.14	182	9	3.2		RA-226
0	205.92	513	11169	1.70	205.58	204	5	62.6		U-235
1	236.43	1501	7507	1.44	236.10	233	14	16.9	3.27E+00	NB-95M
1	239.49*	643	9213	1.76	239.16	233	14	48.1		PB-212
1	242.40	17256	7156	1.45	242.07	233	14	2.1		RA-224
1	256.49	1053	7521	1.77	256.16	253	10	25.6	5.10E+00	
1	259.34	1349	7400	1.78	259.01	253	10	20.4		
7	270.59	3543	9524	3.13	270.26	267	11	9.7	4.99E+00	
7	275.00	836	6821	1.60	274.67	267	11	31.1		
0	285.76	304	6722	3.83	285.44	284	5	81.8		
4	295.63*	39618	6349	1.53	295.31	290	13	1.2	1.45E+01	PB-214
4	299.56	1443	8757	2.41	299.24	290	13	27.8		PB-212 GA-67
0	314.60	377	5146	2.12	314.28	313	5	58.1		
0	324.15	282	5307	1.17	323.84	322	5	78.4		RA-223
0	329.87	305	5326	1.51	329.55	328	5	72.7		
2	352.32*	68121	4460	1.59	352.01	346	14	0.8	4.06E+01	PB-214
2	355.96	1664	4954	2.04	355.65	346	14	20.4		
0	388.39	1287	6787	3.50	388.09	384	9	23.7		
2	402.15	690	3933	1.82	401.85	399	10	28.3	1.11E+00	RN-219
2	405.63	602	4713	2.09	405.33	399	10	37.7		
0	428.05	311	5178	2.84	427.76	425	7	78.1		
0	445.34	200	3431	1.28	445.05	443	6	93.6		
0	454.91	280	2826	2.12	454.62	453	5	58.2		
0	462.45	366	3121	2.40	462.16	460	6	49.5		

AG 2/23/12

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	480.89	425	2924	1.77	480.61	478	6	41.4		
0	487.38	570	3268	1.70	487.10	484	7	34.3		
0	511.28*	791	4154	3.30	511.00	506	10	31.4		
0	533.75	261	2462	1.52	533.48	531	6	61.4		
5	580.63	499	1818	1.72	580.37	577	9	27.1	1.24E+00	
5	583.56*	182	1433	1.37	583.29	577	9	63.1		TL-208
4	605.99	116	1843	2.26	605.73	603	15	113.1	3.41E+01	
4	609.75*	50529	1678	1.71	609.49	603	15	0.9		BI-214
4	613.26	1056	1819	1.85	613.00	603	15	33.5		
0	665.94	1286	2190	1.97	665.69	662	8	13.8		
0	703.85	390	2197	2.08	703.61	700	8	42.9		
0	712.29	127	1738	3.65	712.05	709	7	111.0		
0	719.97	383	2045	1.82	719.73	716	8	42.1		
0	743.41	513	2206	3.11	743.18	739	10	35.4		
0	752.77	135	1683	3.73	752.55	750	7	101.7		
0	768.65*	4654	2795	2.07	768.42	763	11	5.3		
0	786.26	1117	1830	1.97	786.04	782	8	14.5		
0	806.73	1023	2078	2.01	806.51	802	9	17.2		
0	821.71	133	1176	1.72	821.50	819	5	79.3		
0	830.05	400	2779	7.54	829.84	824	12	53.6		
0	839.49	604	1826	1.88	839.28	836	8	25.8		
0	906.12	108	1439	4.07	905.92	903	6	112.4		
2	934.50	2576	1253	1.94	934.31	928	15	5.9	3.35E+00	
2	937.77	130	1460	2.43	937.58	928	15	122.4		
0	963.68	229	1658	1.71	963.50	961	8	62.7		
0	1001.81*	703	2077	1.99	1001.64	996	12	27.0		PA-234M
0	1033.54	101	947	2.94	1033.37	1031	6	98.8		
0	1053.02	257	1299	2.04	1052.86	1049	8	50.2		
0	1069.24	376	1667	2.25	1069.07	1064	11	43.3		
0	1104.84	120	1074	2.14	1104.69	1101	7	92.5		
0	1120.89	11070	1943	2.12	1120.74	1115	12	2.5		BI-214
0	1134.05	181	1254	1.77	1133.90	1131	8	69.4		
0	1155.91	1377	1441	2.18	1155.76	1151	11	12.0		
0	1182.22	151	1086	2.42	1182.08	1178	8	77.1		
0	1207.86	355	1119	2.30	1207.73	1203	9	35.6		
0	1238.79	4065	1687	2.23	1238.67	1232	13	5.2		
0	1254.46	256	1199	3.29	1254.34	1250	10	52.2		
0	1281.66	907	1234	2.28	1281.55	1277	10	15.9		
0	1304.43	99	857	3.25	1304.32	1301	8	104.4		
0	1337.24	123	679	4.33	1337.13	1334	7	72.5		
1	1378.22	2848	711	2.26	1378.13	1367	25	4.9	3.09E+00	
1	1385.88	573	728	2.40	1385.78	1367	25	17.7		
0	1401.91	825	1024	1.83	1401.82	1397	9	15.6		
0	1408.55	1454	932	2.25	1408.46	1405	8	9.0		
0	1461.48*	940	1162	2.38	1461.40	1457	11	15.5		K-40
0	1509.89	1299	1314	2.18	1509.82	1505	11	12.1		
0	1539.03	219	708	1.77	1538.97	1536	6	40.8		
0	1543.98	244	576	1.72	1543.91	1542	6	34.1		
5	1583.83	445	592	2.56	1583.77	1579	10	21.3	3.88E+00	
0	1598.34	311	1071	6.95	1598.28	1590	15	47.4		
0	1662.20	702	535	2.26	1662.16	1656	13	15.6		

Sample ID : 1201163-04 Acquisition date : 22-FEB-2012 11:31:09

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	1684.50	131	358	2.33	1684.47	1680	9	55.1		
0	1693.67	179	423	2.97	1693.64	1689	11	46.9		
0	1730.17	2060	444	2.47	1730.15	1724	13	6.1		
2	1765.05*	9039	219	2.34	1765.03	1758	16	2.2	3.45E+00	BI-214
2	1768.94	267	206	2.43	1768.92	1758	16	64.0		
0	1803.73	61	276	2.83	1803.72	1799	13	113.9		
3	1838.82	202	205	2.56	1838.81	1834	33	28.4	1.35E+00	
3	1843.28	41	232	3.11	1843.28	1834	33	177.4		
3	1848.00	1216	183	2.46	1848.00	1834	33	6.8		
0	1875.37	80	312	2.49	1875.38	1868	11	88.5		
3	1890.72	59	204	2.31	1890.73	1887	15	82.9	1.00E+00	
3	1896.69	75	256	3.09	1896.70	1887	15	80.1		
0	1936.92	182	300	3.20	1936.94	1930	14	43.1		
0	1971.71	48	173	1.51	1971.74	1968	8	98.8		
4	2016.93	49	152	2.89	2016.96	2008	17	99.0	2.49E+00	
4	2021.23	28	127	3.18	2021.26	2008	17	155.7		
0	2040.80	24	71	2.40	2040.84	2038	6	118.9		
0	2091.51	54	91	2.98	2091.56	2087	10	71.7		
0	2118.74	719	220	2.52	2118.80	2103	25	13.1		
0	2193.13	57	54	1.93	2193.20	2190	9	53.4		
0	2204.61	2481	115	2.51	2204.68	2199	13	4.4		BI-214
0	2245.56	26	33	7.65	2245.65	2239	11	94.0		
0	2293.79	178	23	2.62	2293.89	2287	15	19.0		
0	2448.06	705	45	2.53	2448.19	2441	14	8.6		
0	2482.37	14	0	1.35	2482.50	2478	9	53.5		
0	2555.95	10	0	3.98	2556.10	2552	8	63.2		
0	2603.44	10	0	1.12	2603.60	2599	9	63.2		
0	2615.30*	67	5	2.88	2615.46	2610	11	29.0		TL-208
0	2629.55	7	0	1.33	2629.71	2627	6	75.6		
0	2695.36	20	5	1.56	2695.54	2691	9	59.9		
0	2770.97	10	5	1.31	2771.16	2766	9	103.4		
0	2979.36	10	0	2.81	2979.60	2976	7	63.2		
0	3000.01	8	0	2.75	3000.25	2997	7	70.7		
0	3052.83	12	0	1.45	3053.08	3049	8	57.7		

Sample ID : 1201163-04 Acquisition date : 22-FEB-2012 11:31:09

Total number of lines in spectrum	119	
Number of unidentified lines	75	
Number of lines tentatively identified by NID	44	36.97%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.269E+01	2.269E+01	0.411E+01	18.10	
TL-208	1.41E+10Y	1.00	6.876E-01	6.876E-01	1.910E-01	27.77	
PB-210	22.26Y	1.00	1.055E+02	1.057E+02	0.105E+02	9.90	
PB-212	1.41E+10Y	1.00	9.326E-01	9.326E-01	4.564E-01	48.94	
BI-214	1602.00Y	1.00	1.566E+02	1.566E+02	0.077E+02	4.93	
PB-214	1602.00Y	1.00	1.545E+02	1.545E+02	0.100E+02	6.50	
RN-219	3.28E+04Y	1.00	9.929E+00	9.929E+00	2.956E+00	29.77	
RA-223	3.28E+04Y	1.00	5.790E+00	5.790E+00	4.570E+00	78.93	
RA-224	1.41E+10Y	1.00	2.845E+02	2.845E+02	0.266E+02	9.34	
RA-226	1602.00Y	1.00	3.436E+02	3.437E+02	6.295E+02	183.18	
PA-234M	4.47E+09Y	1.00	1.486E+02	1.486E+02	0.424E+02	28.51	
TH-234	4.47E+09Y	1.00	9.278E+01	9.278E+01	1.005E+01	10.83	
U-235	7.04E+08Y	1.00	6.980E+00	6.980E+00	3.050E+00	43.70	
			---------	---------			
Total Activity :			1.333E+03	1.333E+03			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
GA-67	3.26D	226.	1.533E+01	3.465E+03	12.16E+03	351.01	
NB-95M	3.61D	134.	3.856E+00	5.159E+02	0.991E+02	19.21	
			---------	---------			
Total Activity :			1.919E+01	3.981E+03			

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CE-141	32.50D	1.72	2.113E+00	3.640E+00	1.105E+00	30.35	
			---------	---------			
Total Activity :			2.113E+00	3.640E+00			

Grand Total Activity : 1.354E+03 5.318E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
K-40	1460.81	10.67*	5.027E-01	2.269E+01	2.269E+01	18.10	OK
	Final Mean for 1 Valid Peaks = 2.269E+01+/- 4.106E+00 (18.10%)						
TL-208	583.14	30.22*	1.029E+00	7.566E-01	7.566E-01	63.91	OK
	860.37	4.48	7.505E-01	-----	Line Not Found	-----	Absent
	2614.66	35.85	3.563E-01	6.749E-01	6.749E-01	30.80	OK
	Final Mean for 2 Valid Peaks = 6.876E-01+/- 1.910E-01 (27.77%)						
PB-210	46.50	4.25*	2.613E+00	1.055E+02	1.057E+02	9.90	OK
	Final Mean for 1 Valid Peaks = 1.057E+02+/- 1.046E+01 (9.90%)						
PB-212	238.63	44.60*	2.000E+00	9.326E-01	9.326E-01	48.94	OK
	300.09	3.41	1.716E+00	3.191E+01	3.191E+01	29.22	<<WM Interf
	Final Mean for 1 Valid Peaks = 9.326E-01+/- 4.564E-01 (48.94%)						
BI-214	609.31	46.30*	9.927E-01	1.423E+02	1.423E+02	10.17	OK
	1120.29	15.10	6.104E-01	1.555E+02	1.555E+02	9.44	OK
	1764.49	15.80	4.432E-01	1.671E+02	1.671E+02	9.25	OK
	2204.22	4.98	3.885E-01	1.660E+02	1.660E+02	10.65	OK
	Final Mean for 4 Valid Peaks = 1.566E+02+/- 7.714E+00 (4.93%)						
PB-214	295.21	19.19	1.736E+00	1.539E+02	1.539E+02	9.17	OK
	351.92	37.19*	1.529E+00	1.550E+02	1.550E+02	9.22	OK
	Final Mean for 2 Valid Peaks = 1.545E+02+/- 1.005E+01 (6.50%)						
RN-219	401.80	6.50*	1.383E+00	9.929E+00	9.929E+00	29.77	OK
	Final Mean for 1 Valid Peaks = 9.929E+00+/- 2.956E+00 (29.77%)						
RA-223	323.87	3.88*	1.626E+00	5.790E+00	5.790E+00	78.93	OK
	Final Mean for 1 Valid Peaks = 5.790E+00+/- 4.570E+00 (78.93%)						
RA-224	240.98	3.95*	1.987E+00	2.845E+02	2.845E+02	9.34	OK
	Final Mean for 1 Valid Peaks = 2.845E+02+/- 2.658E+01 (9.34%)						
RA-226	186.21	3.28*	2.308E+00	3.436E+02	3.437E+02	183.18	OK
	Final Mean for 1 Valid Peaks = 3.437E+02+/- 6.295E+02 (183.18%)						
PA-234M	1001.03	0.92*	6.658E-01	1.486E+02	1.486E+02	28.51	OK
	Final Mean for 1 Valid Peaks = 1.486E+02+/- 4.237E+01 (28.51%)						

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
TH-234	63.29	3.80*	2.884E+00	9.278E+01	9.278E+01	10.83	OK

Final Mean for 1 Valid Peaks = 9.278E+01+/- 1.005E+01 (10.83%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
U-235	143.76	10.50*	2.601E+00	9.695E+00	9.695E+00	26.49	<<WM Interf
	163.35	4.70	2.462E+00	7.550E+00	7.550E+00	58.34	OK
	205.31	4.70	2.188E+00	6.455E+00	6.455E+00	65.51	OK

Final Mean for 2 Valid Peaks = 6.980E+00+/- 3.050E+00 (43.70%)

Nuclide Type: ACTIVATION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
GA-67	93.31	35.70*	2.914E+00	1.533E+01	3.465E+03	351.01	OK
	208.95	2.24	2.166E+00	----- Line	Not Found	-----	Absent
	300.22	16.00	1.716E+00	6.804E+00	1.537E+03	352.17	<<WM Interf

Final Mean for 1 Valid Peaks = 3.465E+03+/- 1.216E+04 (351.01%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
NB-95M	235.69	25.00*	2.015E+00	3.856E+00	5.159E+02	19.21	OK

Final Mean for 1 Valid Peaks = 5.159E+02+/- 9.912E+01 (19.21%)

Nuclide Type: FISSION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
CE-141	145.44	48.40*	2.589E+00	2.113E+00	3.640E+00	30.35	OK

Final Mean for 1 Valid Peaks = 3.640E+00+/- 1.105E+00 (30.35%)

Flag: "*" = Keyline

---- Identified Nuclides ----

Nuclide	Activity (pCi/gram)	Act error	MDA (pCi/gram)	MDA error	Act/MDA
K-40	2.269E+01	4.106E+00	3.081E+00	2.612E-01	7.363
GA-67	3.465E+03	1.216E+04	1.977E+02	6.938E+02	17.528
NB-95M	5.159E+02	9.912E+01	1.482E+02	1.214E+01	3.480
CE-141	3.640E+00	1.105E+00	1.029E+00	2.369E-01	3.537
TL-208	6.876E-01	1.910E-01	8.632E-01	7.983E-02	0.797
PB-210	1.057E+02	1.046E+01	6.193E+00	4.780E-01	17.072
PB-212	9.326E-01	4.564E-01	6.263E-01	5.128E-02	1.489
BI-214	1.566E+02	7.714E+00	5.685E-01	5.288E-02	275.501
PB-214	1.545E+02	1.005E+01	7.225E-01	5.975E-02	213.815
RN-219	9.929E+00	2.956E+00	4.365E+00	3.619E-01	2.275
RA-223	5.790E+00	4.570E+00	6.971E+00	5.749E-01	0.831
RA-224	2.845E+02	2.658E+01	7.120E+00	5.830E-01	39.961
RA-226	3.437E+02	6.295E+02	9.027E+00	1.653E+01	38.069
PA-234M	1.486E+02	4.237E+01	3.305E+01	2.679E+00	4.497
TH-234	9.278E+01	1.005E+01	8.493E+00	6.293E-01	10.924
U-235	6.980E+00	3.050E+00	2.730E+00	4.814E-01	2.557

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
BE-7	-1.927E+00		2.304E+00	3.490E+00	3.077E-01	-0.552
NA-22	7.071E-02		2.209E-01	3.279E-01	2.684E-02	0.216
AL-26	-4.906E-02		1.413E-01	2.010E-01	1.606E-02	-0.244
TI-44	3.861E-01		2.677E-01	3.555E-01	2.785E-02	1.086
SC-46	-1.845E-01		2.400E-01	3.947E-01	3.159E-02	-0.468
V-48	9.395E-02		5.596E-01	9.358E-01	7.562E-02	0.100
CR-51	-6.432E-01		4.119E+00	5.148E+00	4.488E-01	-0.125
MN-54	3.324E-01		2.678E-01	3.314E-01	2.812E-02	1.003
CO-56	1.137E-01		2.482E-01	3.766E-01	3.159E-02	0.302
CO-57	-1.652E-01		2.045E-01	3.262E-01	3.148E-02	-0.506
CO-58	1.020E-01		2.467E-01	3.748E-01	3.256E-02	0.272
FE-59	-2.165E-01		5.407E-01	7.906E-01	7.049E-02	-0.274
CO-60	3.672E-02		2.154E-01	3.197E-01	2.614E-02	0.115
ZN-65	4.100E-01		4.755E-01	7.182E-01	5.885E-02	0.571
SE-75	2.652E-01		4.091E-01	5.217E-01	4.284E-02	0.508
RB-82	1.789E+00		3.102E+00	4.344E+00	3.862E-01	0.412
RB-83	7.216E-03		4.418E-01	6.790E-01	1.077E-01	0.011
KR-85	1.301E+02		4.131E+01	6.380E+01	5.746E+00	2.039
SR-85	7.437E-01		2.361E-01	3.647E-01	3.285E-02	2.039
Y-88	4.503E-01		1.795E-01	3.081E-01	2.448E-02	1.462
NB-93M	-6.497E+01		1.482E+01	1.779E-01	3.960E-02	-365.119
NB-94	3.908E-02		1.858E-01	3.121E-01	2.552E-02	0.125
NB-95	5.715E+00		6.711E-01	7.370E-01	6.599E-02	7.755
ZR-95	1.750E-01		4.421E-01	6.735E-01	6.628E-02	0.260
RU-103	-3.495E-03		2.605E-01	4.456E-01	6.394E-02	-0.008
RU-106	-9.579E-01		1.734E+00	2.604E+00	3.599E-01	-0.368
AG-108M	3.666E-01		2.084E-01	3.230E-01	2.957E-02	1.135

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
CD-109	5.302E+01		9.257E+00	1.025E+01	1.191E+00	5.171
AG-110M	2.162E-02		1.920E-01	2.929E-01	2.735E-02	0.074
SN-113	4.591E-01		3.282E-01	5.139E-01	4.361E-02	0.893
TE123M	1.052E-01		3.154E-01	4.080E-01	3.378E-02	0.258
SB-124	4.607E-02		2.486E-01	3.807E-01	3.537E-02	0.121
I-125	4.983E-01		3.637E+00	5.565E+00	5.049E-01	0.090
SB-125	1.060E+00	+	8.339E-01	1.034E+00	8.957E-02	1.025
SB-126	4.426E+00	+	1.913E+00	2.345E+00	2.150E-01	1.888
SN-126	7.830E-01		6.595E-01	9.844E-01	9.784E-02	0.795
SB-127	5.205E+01		4.265E+01	7.318E+01	6.794E+00	0.711
I-129	-1.847E-01		3.418E-01	5.205E-01	5.465E-02	-0.355
I-131	3.444E-01		1.722E+00	2.851E+00	2.356E-01	0.121
TE-132	-3.196E+01		4.583E+01	7.186E+01	5.882E+00	-0.445
BA-133	2.379E+00	+	5.831E-01	7.071E-01	9.176E-02	3.364
CS-134	1.575E-01	+	1.788E-01	3.076E-01	2.865E-02	0.512
CS-135	6.817E+00		1.365E+00	1.869E+00	1.521E-01	3.647
CS-136	4.205E-01		9.738E-01	1.464E+00	1.233E-01	0.287
CS-137	-2.224E-02		2.004E-01	3.041E-01	2.845E-02	-0.073
LA-138	2.503E-02		2.987E-01	4.907E-01	4.033E-02	0.051
CE-139	6.736E-01		2.814E-01	4.121E-01	3.294E-02	1.635
BA-140	1.009E+00		2.781E+00	4.259E+00	1.417E+00	0.237
LA-140	2.463E+00		9.207E-01	1.439E+00	1.180E-01	1.712
CE-144	1.724E-01		1.684E+00	2.704E+00	2.499E-01	0.064
PM-144	-4.203E-02		1.835E-01	2.769E-01	2.564E-02	-0.152
PM-145	-6.480E-01		9.107E-01	1.223E+00	7.967E-01	-0.530
PM-146	7.273E-01	+	4.291E-01	6.985E-01	6.057E-02	1.041
ND-147	3.830E+00		6.429E+00	9.959E+00	9.043E-01	0.385
EU-152	2.450E+01	+	3.538E+00	3.723E+00	3.943E-01	6.581
GD-153	-1.337E+00		7.731E-01	1.214E+00	1.188E-01	-1.101
EU-154	1.905E-01		6.137E-01	9.106E-01	7.453E-02	0.209
EU-155	1.186E+01		1.510E+00	1.210E+00	1.187E-01	9.807
EU-156	-2.008E+00		5.891E+00	8.763E+00	2.003E+00	-0.229
HO-166M	3.463E-01	+	3.861E-01	5.096E-01	4.688E-02	0.680
HF-172	6.162E-01		1.499E+00	2.414E+00	2.296E-01	0.255
LU-172	-9.110E-01		4.069E+00	6.719E+00	5.496E-01	-0.136
LU-173	9.595E+00		1.263E+00	1.572E+00	1.277E-01	6.105
HF-175	-2.054E-01		2.792E-01	4.305E-01	3.560E-02	-0.477
LU-176	-9.042E-02		1.993E-01	2.848E-01	2.337E-02	-0.318
TA-182	7.856E+01	+	7.418E+00	3.621E+00	2.964E-01	21.697
IR-192	2.134E-01		4.512E-01	7.004E-01	6.136E-02	0.305
HG-203	1.399E-01		3.604E-01	5.224E-01	4.366E-02	0.268
BI-207	8.287E-02		1.612E-01	2.760E-01	2.543E-02	0.300
BI-210M	8.717E-01		4.223E-01	6.150E-01	5.017E-02	1.417
PB-211	1.953E+01	+	7.587E+00	1.075E+01	8.941E-01	1.816
BI-212	-6.982E-01		1.549E+00	2.318E+00	2.118E-01	-0.301
RA-225	-2.925E+00		1.848E+00	2.750E+00	2.301E-01	-1.064
TH-227	8.389E+00	+	1.612E+00	2.664E+00	2.182E-01	3.148
AC-228	4.716E-01		7.838E-01	1.187E+00	9.431E-02	0.397

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
TH-230	1.583E+02		6.860E+01	9.055E+01	7.075E+00	1.749
PA-231	2.233E+01		8.581E+00	1.241E+01	1.016E+00	1.800
TH-231	1.373E+00		1.453E+00	2.409E+00	2.945E-01	0.570
PA-233	4.369E-01		9.208E-01	1.325E+00	2.955E-01	0.330
PA-234	7.569E-01		8.318E-01	1.338E+00	1.247E-01	0.566
NP-237	2.880E+01		3.667E+00	2.938E+00	2.883E-01	9.805
AM-241	1.614E+00		6.492E-01	8.629E-01	6.112E-02	1.871
AM-243	1.470E+01		1.433E+00	6.961E-01	5.924E-02	21.125
CM-243	1.021E+00		1.380E+00	2.005E+00	1.625E-01	0.509

Total number of lines in spectrum	119	
Number of unidentified lines	75	
Number of lines tentatively identified by NID	44	36.97%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.269E+01	2.269E+01	0.411E+01	18.10	
TL-208	1.41E+10Y	1.00	6.876E-01	6.876E-01	1.910E-01	27.77	
PB-210	22.26Y	1.00	1.055E+02	1.057E+02	0.105E+02	9.90	
PB-212	1.41E+10Y	1.00	9.326E-01	9.326E-01	4.564E-01	48.94	
BI-214	1602.00Y	1.00	1.566E+02	1.566E+02	0.077E+02	4.93	
PB-214	1602.00Y	1.00	1.545E+02	1.545E+02	0.100E+02	6.50	
RN-219	3.28E+04Y	1.00	9.929E+00	9.929E+00	2.956E+00	29.77	
RA-223	3.28E+04Y	1.00	5.790E+00	5.790E+00	4.570E+00	78.93	
RA-224	1.41E+10Y	1.00	2.845E+02	2.845E+02	0.266E+02	9.34	
RA-226	1602.00Y	1.00	3.436E+02	3.437E+02	6.295E+02	183.18	
PA-234M	4.47E+09Y	1.00	1.486E+02	1.486E+02	0.424E+02	28.51	
TH-234	4.47E+09Y	1.00	9.278E+01	9.278E+01	1.005E+01	10.83	
U-235	7.04E+08Y	1.00	6.980E+00	6.980E+00	3.050E+00	43.70	
			---------	---------			
	Total Activity :		1.333E+03	1.333E+03			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
GA-67	3.26D	226.	1.533E+01	3.465E+03	12.16E+03	351.01	
NB-95M	3.61D	134.	3.856E+00	5.159E+02	0.991E+02	19.21	
			---------	---------			
	Total Activity :		1.919E+01	3.981E+03			

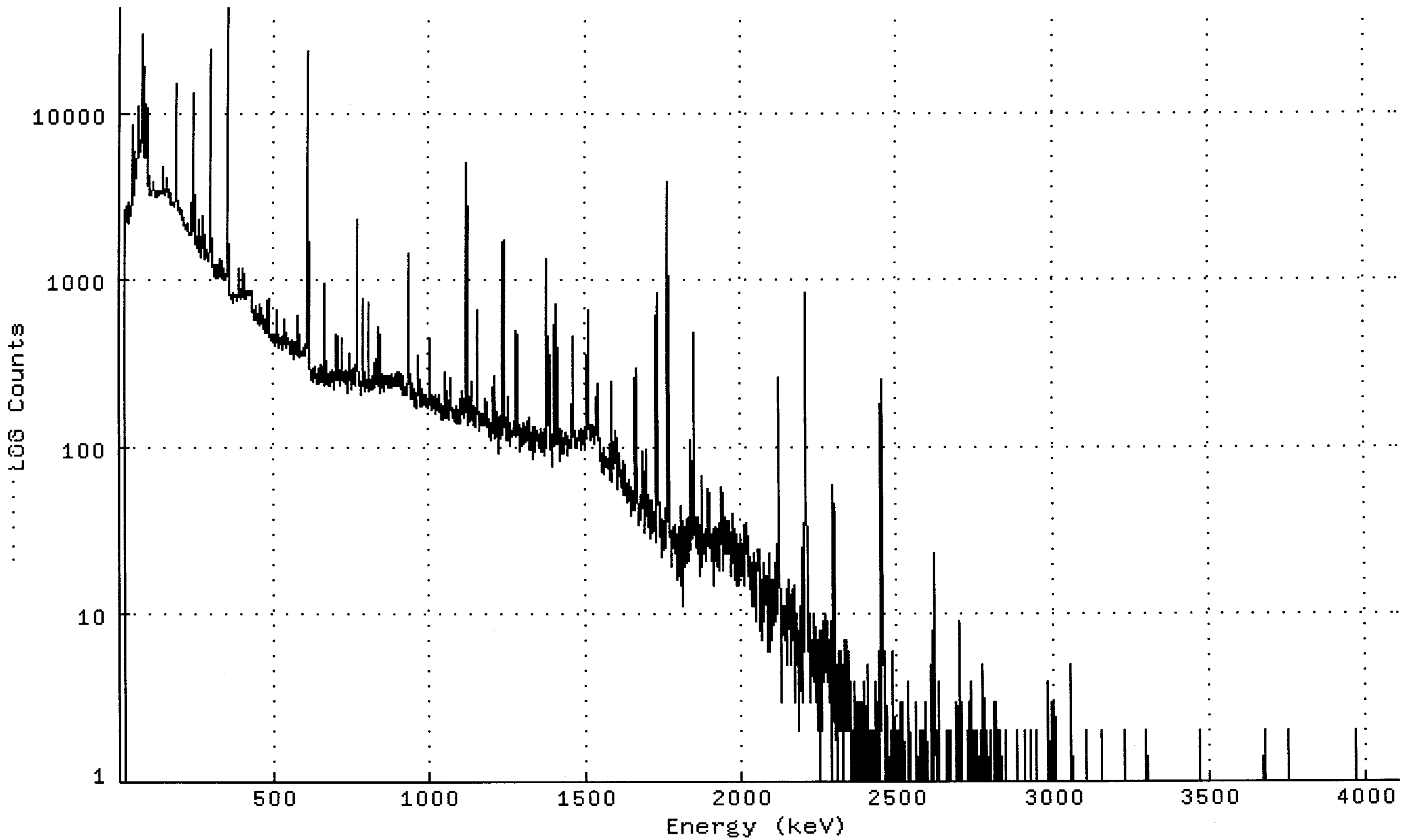
Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CE-141	32.50D	1.72	2.113E+00	3.640E+00	1.105E+00	30.35	
			---------	---------			
	Total Activity :		2.113E+00	3.640E+00			

Grand Total Activity : 1.354E+03 5.318E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Spectrum : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116304_GE1_GAS1102_176247.CNF;1
Title :
Sample Title: JM-70-32-120128
Start Time: 22-FEB-2012 11:31 Sample Time: 28-JAN-2012 00:00 Energy Offset: 3.84457E-01
Real Time : 0 01:00:43.87 Sample ID : 1201163-04 Energy Slope : 9.99792E-01
Live Time : 0 01:00:00.00 Sample Type: SOLID Energy Quad : 0.00000E+00



Channel Contents for DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116304_GE1_GAS1102_1762

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25:	2331	2284	2273	2232	2172	2127	2373	2854
33:	2328	2255	2363	2623	2564	2353	2539	2703
41:	2767	2895	3014	3303	3665	8289	7001	3167
49:	3522	4262	3754	4083	5693	4397	4031	4205
57:	4311	4810	5040	5411	5666	6345	10730	7828
65:	5659	5813	6422	6804	5938	5978	6245	6484
73:	6818	11374	19009	11715	28439	12159	7030	6432
81:	7093	5364	5953	8548	5325	5583	10858	7953
89:	5287	6869	4867	8362	10329	5298	5133	3611
97:	3617	4137	3789	3252	3163	3224	3314	3197
105:	3321	3231	3238	3307	3445	3467	3625	3584
113:	3804	3394	3308	3247	3180	3279	3125	3233
121:	3109	3151	3266	3182	3190	3360	3172	3218
129:	3227	3297	3348	3299	3308	3257	3251	3262
137:	3333	3293	3289	3401	3383	3276	3681	4691
145:	3693	3205	3347	3439	3387	3449	3463	3530
153:	3564	3959	3684	3360	3322	3399	3195	3185
161:	3132	3065	3387	3130	3032	3059	2807	2881
169:	2904	2770	2869	2793	2771	2788	2796	2818
177:	2860	2699	2882	2857	2841	2850	2922	2991
185:	5345	14806	7764	3015	2897	2805	2736	2552
193:	2575	2641	2649	2546	2583	2562	2483	2472
201:	2484	2456	2422	2280	2579	2462	2183	2178
209:	2140	2279	2183	2076	2077	2047	2074	2008
217:	2009	2039	1969	2122	2001	1938	1952	1930
225:	1959	1897	1858	1907	1856	1864	1902	1894
233:	1921	1839	2025	2832	2163	1961	2169	1990
241:	4231	12985	5276	1875	1822	1750	1684	1620
249:	1597	1613	1545	1561	1532	1527	1582	2068
257:	1838	1771	2251	1643	1443	1483	1392	1441
265:	1461	1367	1347	1487	2143	2369	2196	1882
273:	1533	1659	1818	1442	1349	1384	1304	1441
281:	1440	1357	1343	1498	1381	1480	1374	1293
289:	1299	1287	1310	1321	1560	4294	23266	15013
297:	2078	1671	1603	1737	1300	1170	1325	1169
305:	1221	1098	1074	1078	1097	1047	1059	1008
313:	1097	1210	1164	1049	1003	1026	1021	1059
321:	1083	1053	1118	1305	1071	1042	1072	1082
329:	1157	1268	1104	1020	1095	1141	1100	1012
337:	989	1161	1085	1020	1017	1078	1076	1001
345:	988	1000	1016	1036	1289	1872	13232	42319
353:	14026	1719	1344	1608	1167	817	838	797
361:	784	787	793	807	766	762	729	756
369:	797	734	764	824	785	789	775	776
377:	805	798	795	802	752	792	742	737
385:	798	905	1065	910	1163	908	817	771
393:	761	790	820	811	826	792	783	808
401:	940	1143	944	872	1061	989	809	799
409:	770	848	806	795	812	849	758	812
417:	838	804	823	853	847	848	803	855
425:	826	850	818	848	748	702	697	643

433:	676	610	597	646	577	628	625	593
441:	583	570	596	597	695	603	564	576
449:	552	580	620	543	579	644	709	638
457:	536	600	553	544	637	661	586	560
465:	499	503	529	534	559	602	542	539
473:	524	550	473	491	514	481	490	676
481:	746	497	459	501	480	547	755	611
489:	475	469	445	433	447	450	440	464
497:	434	424	446	444	442	444	466	420
505:	400	427	415	425	505	623	658	615
513:	478	462	425	409	423	391	389	438
521:	422	417	414	411	419	406	387	426
529:	378	394	403	423	489	574	429	405
537:	433	469	397	391	403	388	452	475
545:	416	427	418	409	420	439	384	376
553:	365	360	380	417	390	426	359	393
561:	407	390	384	332	388	364	381	418
569:	381	420	359	393	391	410	394	394
577:	349	349	420	607	543	396	456	432
585:	353	354	344	352	359	355	370	370
593:	356	365	367	356	360	350	392	374
601:	395	386	354	351	409	391	692	3745
609:	22481	22274	3295	830	841	677	407	317
617:	304	296	278	258	279	287	253	279
625:	267	289	284	283	246	295	275	271
633:	294	296	282	258	251	268	265	269
641:	254	238	263	269	280	289	236	258
649:	293	310	242	246	259	269	242	257
657:	303	258	258	290	289	278	234	304
665:	825	934	394	265	242	290	243	253
673:	239	235	249	232	271	242	250	233
681:	240	276	278	269	277	249	281	259
689:	266	243	252	276	220	250	249	240
697:	263	271	287	278	252	314	463	439
705:	306	282	253	284	254	281	288	278
713:	285	248	231	236	257	266	346	445
721:	336	265	277	271	254	271	245	262
729:	263	236	286	257	253	269	268	240
737:	249	236	209	268	295	307	358	285
745:	270	247	263	217	221	223	264	263
753:	279	291	252	246	263	251	240	237
761:	255	240	229	241	258	379	653	2001
769:	2265	602	284	273	271	274	237	249
777:	230	237	241	222	202	219	240	255
785:	385	754	581	283	230	260	276	234
793:	215	244	224	217	237	238	230	224
801:	250	229	239	213	321	723	641	289
809:	220	226	221	238	246	223	220	259
817:	244	243	241	227	316	299	226	235
825:	255	288	281	253	236	240	283	330
833:	295	250	233	232	256	281	519	422
841:	265	246	209	241	212	227	270	249
849:	225	227	235	242	218	229	215	259
857:	263	239	261	253	259	258	237	235
865:	227	236	260	240	253	234	257	226
873:	241	258	261	227	224	270	234	242
881:	272	264	259	242	253	231	247	253
889:	238	234	254	260	265	271	268	256
897:	249	250	274	234	229	259	238	276
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913:	254	237	255	246	223	203	203	221
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929:	213	237	233	235	492	1413	1093	336
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953:	193	222	174	205	199	171	198	190
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1153:	170	231	603	659	284	160	160	151
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1169:	148	135	154	152	157	148	138	135
1177:	133	134	135	146	161	195	177	158
1185:	131	144	134	137	119	141	138	115
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1225:	91	132	147	151	116	135	132	132
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1297:	109	102	107	108	104	120	123	136
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1313:	115	110	114	129	135	148	97	107
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1337:	122	130	117	94	100	119	120	108
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1609:	76	71	74	91	57	69	71	70
1617:	72	61	83	59	76	66	56	51
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1681:	47	44	59	93	86	53	39	31
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1857:	29	25	32	23	23	29	26	38
1865:	25	20	34	30	28	17	21	33

1873:	66	63	47	32	28	27	23	28
1881:	28	30	29	31	30	27	32	21
1889:	30	50	55	34	31	33	31	53
1897:	50	39	34	25	27	29	26	21
1905:	29	30	30	28	20	15	27	31
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1945:	31	33	26	38	23	35	30	26
1953:	23	29	26	36	26	31	36	28
1961:	33	23	31	17	18	28	27	19
1969:	31	31	26	40	29	20	25	16
1977:	27	32	21	20	25	30	27	15
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1993:	21	28	30	19	17	23	25	22
2001:	22	26	23	17	21	15	22	18
2009:	22	22	34	33	33	23	29	26
2017:	35	25	29	23	20	28	18	15
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2065:	13	7	20	15	11	12	11	9
2073:	12	14	17	15	12	14	14	9
2081:	9	14	6	17	7	15	6	12
2089:	23	22	18	14	14	14	13	9
2097:	7	10	16	12	10	14	10	12
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2161:	7	14	9	10	9	10	9	9
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2193:	16	14	11	9	11	10	6	15
2201:	18	66	268	822	833	373	92	36
2209:	31	23	13	6	7	6	9	10
2217:	7	4	6	3	6	6	7	6
2225:	5	6	8	10	4	4	6	9
2233:	8	8	4	4	6	3	4	3
2241:	7	2	5	5	8	7	8	6
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2257:	5	4	4	9	8	6	8	10
2265:	7	6	9	8	5	4	8	6
2273:	8	6	9	4	7	6	3	6
2281:	5	7	6	4	9	3	0	5
2289:	6	6	4	15	42	59	36	5
2297:	7	6	5	3	1	2	3	2
2305:	5	3	3	5	4	6	2	6
2313:	6	5	3	5	5	4	1	5
2321:	3	5	2	3	3	3	2	4
2329:	2	7	4	5	5	7	3	2
2337:	4	3	3	4	3	6	4	1
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2353:	0	1	1	1	4	1	3	2
2361:	3	2	3	1	3	1	0	2
2369:	0	3	3	2	1	2	1	2
2377:	3	3	1	2	0	2	2	3
2385:	0	0	4	1	1	2	1	2
2393:	2	1	1	2	2	2	4	0
2401:	5	1	1	1	2	1	1	2
2409:	0	0	2	0	2	1	2	2
2417:	0	0	0	0	1	2	2	2
2425:	2	4	4	1	1	1	3	2
2433:	1	0	1	0	0	6	1	2
2441:	3	3	5	2	12	46	131	251
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2457:	1	0	4	2	2	1	1	1
2465:	1	1	0	1	1	1	1	1
2473:	2	2	1	2	0	0	2	2
2481:	0	1	2	6	1	0	0	1
2489:	0	1	1	1	1	0	2	0
2497:	1	1	2	1	1	2	0	2
2505:	3	2	1	1	1	0	1	1
2513:	2	1	3	1	0	1	1	1
2521:	0	0	1	0	1	1	1	0
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2537:	1	1	1	1	1	0	0	0
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2553:	0	1	3	2	2	2	0	0
2561:	0	1	1	1	0	0	2	1
2569:	1	1	2	1	0	0	0	1
2577:	0	1	0	0	0	2	2	0
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2609:	2	0	2	1	4	16	23	17
2617:	7	5	2	0	0	0	2	1
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2641:	0	0	1	0	1	0	1	0
2649:	0	1	0	1	0	0	0	2
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2761:	0	0	2	1	0	1	1	1
2769:	1	2	1	5	2	0	1	0
2777:	1	0	1	1	1	1	1	0
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2793:	2	0	0	0	0	0	0	1
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2809:	0	3	0	1	0	2	1	1
2817:	0	0	1	0	0	2	1	1
2825:	0	0	1	2	0	0	0	0

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2857:	0	1	1	0	1	0	1	0
2865:	0	0	0	1	0	1	0	0
2873:	1	0	0	0	1	0	0	0
2881:	0	2	0	1	0	0	1	0
2889:	1	1	0	1	1	1	0	0
2897:	0	1	0	1	0	0	1	1
2905:	2	0	1	0	0	0	1	0
2913:	0	0	0	1	0	0	0	1
2921:	1	2	1	1	0	0	0	1
2929:	0	0	0	1	0	1	0	0
2937:	0	0	0	0	1	2	0	0
2945:	0	0	0	0	0	0	1	1
2953:	0	0	0	0	0	0	1	0
2961:	0	0	1	0	0	0	0	0
2969:	0	0	0	0	1	0	0	0
2977:	1	0	4	2	3	0	0	0
2985:	0	1	0	3	0	0	0	0
2993:	0	0	0	0	0	0	2	3
3001:	2	1	0	0	0	0	0	0
3009:	0	0	0	0	0	0	0	0
3017:	0	0	1	1	0	0	0	1
3025:	0	0	0	0	0	0	0	1
3033:	0	0	0	1	0	0	1	0
3041:	0	0	0	0	0	0	0	0
3049:	0	1	2	1	1	5	2	0
3057:	0	1	0	0	1	0	1	0
3065:	0	0	1	0	0	0	0	1
3073:	0	0	1	0	0	0	0	0
3081:	1	1	0	0	1	0	0	0
3089:	0	0	0	0	0	0	0	0
3097:	0	1	0	2	0	1	0	0
3105:	0	0	1	0	0	0	0	0
3113:	0	0	0	0	0	0	0	0
3121:	0	1	0	0	0	1	0	0
3129:	0	0	1	0	0	0	0	0
3137:	1	1	1	0	1	0	1	0
3145:	0	0	0	0	0	1	2	0
3153:	0	0	0	0	0	0	0	0
3161:	0	0	1	0	0	0	0	0
3169:	0	0	0	0	0	0	0	0
3177:	0	0	0	0	0	1	0	1
3185:	0	0	0	0	0	0	0	0
3193:	0	0	0	1	0	1	0	0
3201:	1	0	0	0	0	0	1	0
3209:	0	0	0	0	0	0	0	0
3217:	0	0	0	0	0	0	2	1
3225:	0	0	0	0	0	0	0	0
3233:	0	1	0	0	0	1	0	0
3241:	0	0	0	0	0	0	0	0
3249:	0	1	0	0	0	1	0	0
3257:	0	1	0	0	0	0	0	0
3265:	0	0	0	0	0	0	0	0
3273:	0	0	0	0	1	1	0	0
3281:	0	1	0	1	0	0	0	0
3289:	0	1	0	0	0	2	0	0
3297:	0	0	0	0	0	0	0	1
3305:	1	0	0	0	0	0	0	0

3313:	0	0	0	0	1	0	0	0
3321:	0	0	0	0	1	0	0	0
3329:	0	0	0	0	0	1	0	1
3337:	0	0	0	0	0	0	0	1
3345:	0	0	0	0	1	0	0	0
3353:	0	1	0	0	1	0	0	0
3361:	0	0	0	0	1	0	0	0
3369:	0	0	1	0	0	0	1	1
3377:	0	0	0	0	0	0	0	0
3385:	1	0	1	0	0	1	0	0
3393:	0	1	1	0	0	0	0	0
3401:	0	0	0	0	0	0	0	0
3409:	0	0	0	0	0	0	0	1
3417:	0	1	0	0	0	0	0	0
3425:	0	0	0	0	0	0	0	0
3433:	1	0	0	0	0	0	1	0
3441:	0	0	0	0	0	0	0	0
3449:	1	0	0	0	0	0	0	1
3457:	0	0	0	0	0	0	0	0
3465:	2	0	0	0	0	0	0	0
3473:	1	0	0	0	0	0	0	0
3481:	0	0	1	0	0	0	0	0
3489:	0	0	0	0	0	0	0	0
3497:	0	0	0	0	0	0	0	0
3505:	0	1	0	0	0	0	1	1
3513:	0	0	0	0	1	0	1	0
3521:	1	0	0	0	0	0	0	0
3529:	0	0	0	0	0	0	0	0
3537:	0	0	0	0	0	0	0	0
3545:	0	0	0	0	0	0	0	1
3553:	0	0	0	0	1	0	0	0
3561:	0	0	0	1	0	0	0	0
3569:	1	0	0	0	0	0	1	0
3577:	0	0	0	0	0	0	0	0
3585:	0	0	0	0	0	0	0	0
3593:	0	1	0	0	0	0	0	1
3601:	0	0	1	0	0	1	0	0
3609:	0	0	0	0	0	0	1	0
3617:	0	0	0	1	0	0	0	0
3625:	0	0	0	0	0	0	0	1
3633:	0	0	0	0	0	0	0	1
3641:	0	0	0	0	0	0	0	0
3649:	0	0	0	0	0	0	0	0
3657:	0	0	0	0	0	0	0	0
3665:	1	0	0	0	0	2	0	1
3673:	1	0	0	0	0	0	1	0
3681:	0	0	0	0	0	1	0	0
3689:	0	1	0	0	0	0	0	0
3697:	0	0	0	0	0	0	0	0
3705:	1	0	1	0	0	0	0	0
3713:	1	0	0	0	0	1	0	0
3721:	0	0	0	0	0	0	0	0
3729:	1	0	0	0	0	0	1	0
3737:	0	0	1	0	0	1	1	2
3745:	0	1	0	2	0	0	0	1
3753:	0	0	0	0	0	0	0	0
3761:	0	0	0	0	1	0	0	1
3769:	1	0	0	1	0	0	0	0
3777:	0	0	0	0	0	0	0	1
3785:	0	1	0	0	0	0	0	0

3793:	0	0	0	0	0	0	0	0
3801:	0	0	1	0	1	0	0	0
3809:	0	0	0	0	0	0	1	0
3817:	0	0	0	1	0	0	0	0
3825:	0	0	0	0	0	0	0	0
3833:	0	0	0	0	0	0	0	0
3841:	1	0	0	0	1	1	0	0
3849:	1	0	0	0	0	1	0	0
3857:	1	0	0	0	0	0	0	0
3865:	0	0	0	0	0	0	0	0
3873:	0	0	0	0	0	1	0	0
3881:	0	1	0	0	0	1	1	0
3889:	0	0	0	0	0	0	0	1
3897:	0	0	0	0	0	0	0	0
3905:	0	0	0	0	0	1	0	0
3913:	1	0	0	1	0	1	0	1
3921:	0	0	0	0	1	0	0	0
3929:	1	0	0	0	0	0	0	0
3937:	0	1	0	0	0	1	0	0
3945:	0	0	0	0	0	0	0	0
3953:	0	0	0	0	0	0	0	2
3961:	0	0	0	0	0	0	0	0
3969:	0	1	0	0	0	1	0	0
3977:	0	0	1	0	0	1	0	0
3985:	0	0	1	0	0	0	0	0
3993:	0	0	0	0	0	0	1	0
4001:	0	0	1	0	0	0	0	0
4009:	0	0	0	0	1	0	0	0
4017:	0	0	0	0	0	0	0	1
4025:	0	1	0	1	0	0	0	0
4033:	1	0	0	0	0	0	0	0
4041:	0	0	0	1	0	0	0	0
4049:	0	1	0	0	0	1	0	0
4057:	0	0	0	0	0	0	1	0
4065:	0	0	0	0	1	0	0	0
4073:	0	1	0	1	0	1	0	0
4081:	0	0	0	0	0	1	0	0
4089:	1	1	0	0	0	0	1	0

ICS 2/22/12

Sample ID : 1201163-05 Acquisition date : 22-FEB-2012 10:29:18

VAX/VMS Peak Search Report Generated 22-FEB-2012 11:31:41.46

Configuration : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116305_GE3_GAS1102_176237.
Analyses by : PEAK V16.9 ENBACK V1.6 PEAKEFF V2.2
Client ID : JM-70-31-120128
Deposition Date :
Sample Date : 28-JAN-2012 00:00:00 Acquisition date : 22-FEB-2012 10:29:18
Sample ID : 1201163-05 Sample Quantity : 6.21010E+02 GRAM
Sample type : SOLID Sample Geometry : 0
Detector name : GE3 Detector Geometry: GAS-1102
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:02:01.59 3.3%
Start channel : 5 End channel : 4096
Sensitivity : 2.40000 Gaussian : 15.00000
Critical level : Yes

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	26.58*	497	10635	2.49	26.86	25	5	63.1		
0	31.70	684	10721	1.39	31.98	30	5	46.0		
0	46.32*	7702	19945	1.22	46.60	44	6	6.2		PB-210
0	53.73	1504	19196	1.70	54.01	51	5	28.1		
0	63.23*	7914	31687	1.79	63.51	61	6	7.5		TH-234
1	67.72	1521	10796	1.22	68.00	67	16	17.3	2.35E+03	
1	74.84	21442	20986	1.35	75.12	67	16	2.3		AM-243
0	87.09	5304	21236	1.68	87.38	86	4	8.2		NP-237
										SN-126
										CD-109
0	97.97	949	18905	1.90	98.26	97	6	46.4		
0	113.16*	901	18217	1.50	113.45	111	6	48.0		
0	143.88	1912	21128	1.57	144.17	141	7	25.6		U-235
0	154.54	1144	17879	1.80	154.83	153	6	37.5		
0	163.63	724	13330	1.79	163.92	162	5	48.5		U-235
0	186.10*	18264	22075	1.85	186.39	182	9	3.3		RA-226
4	235.90	1971	9320	1.84	236.19	231	16	16.0	6.93E+00	NB-95M
4	242.06	14606	5915	1.34	242.35	231	16	2.2		RA-224
0	257.68	1913	11741	3.92	257.97	254	9	20.9		
7	270.38	3114	10809	2.87	270.68	265	13	12.6	1.16E+01	
7	274.63	726	4706	1.42	274.92	265	13	28.1		
0	284.29	316	5928	2.19	284.58	283	5	73.8		
0	295.34*	32281	12076	1.85	295.64	291	11	1.7		PB-214
0	313.60	239	4522	2.88	313.90	312	5	85.6		
0	323.96	333	4452	1.49	324.26	322	5	61.1		RA-223
0	329.71	305	4520	1.73	330.01	328	5	67.1		LA-140
0	338.29*	324	4302	1.54	338.59	337	5	61.8		
5	349.12	139	2636	1.14	349.42	348	12	97.7	2.59E+02	
5	351.99*	55400	3840	1.62	352.29	348	12	0.9		PB-214
0	388.58	775	6166	3.67	388.88	385	9	37.2		
1	401.54	648	3386	1.75	401.84	397	13	28.1	8.30E+00	RN-219
1	404.75	425	3420	1.75	405.05	397	13	43.7		PB-211
0	427.21	405	4429	2.60	427.51	424	7	55.6		
0	454.84	222	2512	1.51	455.14	453	5	69.2		
0	461.94	214	2287	1.47	462.24	461	5	68.6		
0	469.61	138	2250	2.45	469.91	468	5	104.9		

AG 2/23/12

0117

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	480.55	294	2975	1.59	480.86	478	7	62.8		
0	486.73*	331	2833	1.87	487.04	485	7	54.6		LA-140
0	510.72*	549	3269	3.19	511.03	507	9	38.7		
0	533.52	237	2136	1.48	533.83	531	6	63.1		
0	580.23	311	2273	2.00	580.54	577	7	51.9		
0	597.69	211	2023	3.44	598.00	595	7	72.1		
0	609.39*	38547	3753	1.85	609.70	604	12	1.2		BI-214
0	651.22	100	1285	3.16	651.54	649	6	115.0		
0	665.44	1038	2053	1.60	665.76	662	9	16.9		
0	683.85	96	1307	1.55	684.17	682	6	121.4		
0	703.59	295	1850	2.00	703.91	700	8	52.1		
0	719.77	268	1512	1.37	720.09	717	7	49.6		
0	742.30	324	1865	1.74	742.63	739	9	49.2		
0	768.26*	3654	2312	1.88	768.58	763	11	6.1		
0	786.08	714	1903	1.84	786.41	782	9	23.3		
0	806.42	792	1882	1.94	806.75	802	9	21.0		
2	831.84	160	1027	1.57	832.17	829	15	61.7	4.48E-01	PB-211
2	839.01	452	1207	2.14	839.33	829	15	26.0		
0	910.17	145	1599	2.60	910.50	908	8	97.2		
0	934.14	1823	1884	2.03	934.47	930	10	10.1		
0	964.49*	144	1067	1.88	964.83	962	6	73.8		
0	1001.21*	452	1578	1.99	1001.55	997	10	34.3		PA-234M
0	1052.20	195	932	2.97	1052.54	1049	7	53.8		
0	1069.92	173	1154	2.77	1070.27	1066	9	72.5		
0	1103.41	118	1142	3.27	1103.76	1100	9	105.3		
0	1120.36	7847	1614	2.05	1120.71	1115	12	3.0		BI-214
0	1134.10	113	633	1.86	1134.45	1132	5	69.9		
0	1155.19	957	1137	2.22	1155.54	1151	10	14.7		
3	1181.88	150	798	2.17	1182.23	1177	9	64.3	1.11E+00	
0	1207.85	209	789	1.29	1208.21	1205	7	46.8		
0	1238.22*	2872	1045	2.19	1238.57	1234	10	5.6		
0	1253.08	156	826	2.48	1253.44	1250	8	65.5		
0	1281.09	747	999	2.17	1281.45	1277	10	17.4		
0	1304.20	101	575	2.27	1304.55	1302	7	80.8		
2	1377.73	1962	632	2.17	1378.09	1373	17	6.2	1.09E+00	
2	1385.38	383	622	2.24	1385.74	1373	17	24.0		
3	1401.58	505	690	2.34	1401.95	1397	16	19.2	1.82E+00	
3	1408.08	1062	574	2.07	1408.44	1397	16	9.4		
0	1460.83*	686	862	2.16	1461.20	1457	10	17.8		K-40
0	1479.27	80	596	3.18	1479.64	1477	7	103.2		
0	1509.43	911	1023	2.17	1509.80	1505	11	15.2		
0	1540.90	443	1148	6.92	1541.27	1534	14	34.0		
0	1549.95	63	409	3.12	1550.33	1548	6	104.6		
0	1583.17	363	649	2.74	1583.54	1578	11	29.2		
0	1596.29	344	834	6.79	1596.66	1589	15	38.1		LA-140
0	1622.83	60	367	1.57	1623.21	1620	8	113.2		
0	1661.38	446	487	2.46	1661.76	1655	13	22.5		
0	1683.59	66	274	1.66	1683.97	1681	8	90.7		
0	1693.80	106	268	3.70	1694.18	1690	9	59.4		
0	1729.60	1364	351	2.39	1729.99	1724	12	7.7		
0	1764.63*	6153	339	2.36	1765.02	1759	13	2.8		BI-214

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	1838.05	155	164	2.42	1838.44	1834	9	33.8		
0	1847.51	926	196	2.83	1847.90	1843	11	8.8		
1	1869.84	23	32	2.50	1870.23	1869	10	67.2	1.98E+00	
1	1872.84	105	138	2.55	1873.23	1869	10	44.1		
0	1880.31	26	88	2.45	1880.70	1879	5	116.4		
0	1892.95	122	503	9.75	1893.34	1885	22	95.5		
0	1935.86	93	165	2.95	1936.25	1932	10	55.7		
0	2009.70	41	135	2.26	2010.10	2005	10	109.4		
0	2018.19	47	121	4.43	2018.59	2015	10	93.2		
0	2051.89	58	132	1.92	2052.29	2046	12	84.4		
2	2062.10	28	79	2.88	2062.50	2058	20	120.3	1.17E+00	
2	2067.10	31	76	2.88	2067.50	2058	20	109.4		
1	2109.83	34	68	2.64	2110.24	2104	28	90.5	8.66E-01	
1	2118.54	399	68	2.64	2118.95	2104	28	12.5		
0	2204.24	1722	61	2.62	2204.65	2199	13	5.2		BI-214
0	2219.90	20	22	1.43	2220.32	2217	7	92.7		
1	2287.83	17	7	2.70	2288.25	2287	17	47.0	1.37E+01	
1	2293.34	107	28	2.70	2293.75	2287	17	25.9		
1	2296.34	20	28	2.71	2296.75	2287	17	133.4		
0	2371.28	8	6	3.66	2371.70	2367	8	128.0		
0	2378.68	6	4	1.62	2379.10	2376	6	141.1		
0	2396.14	9	2	2.58	2396.56	2393	7	81.3		
0	2401.08	7	2	1.87	2401.50	2400	4	94.8		
0	2447.82	506	7	2.92	2448.25	2442	13	9.1		
0	2608.98	7	1	1.39	2609.42	2605	7	101.4		
0	2615.76*	23	12	2.47	2616.19	2611	10	72.6		
0	2694.23	12	0	3.33	2694.67	2691	7	57.7		
0	2770.33	9	0	2.36	2770.78	2767	7	66.7		

Sample ID : 1201163-05 Acquisition date : 22-FEB-2012 10:29:18

Total number of lines in spectrum	113	
Number of unidentified lines	68	
Number of lines tentatively identified by NID	45	39.82%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.087E+01	2.087E+01	0.427E+01	20.44	
PB-210	22.26Y	1.00	9.215E+01	9.235E+01	0.994E+01	10.77	
PB-211	3.28E+04Y	1.00	1.329E+01	1.329E+01	0.493E+01	37.10	
BI-214	1602.00Y	1.00	1.376E+02	1.376E+02	0.075E+02	5.48	
PB-214	1602.00Y	1.00	1.379E+02	1.379E+02	0.321E+02	23.31	
RN-219	3.28E+04Y	1.00	1.040E+01	1.040E+01	0.315E+01	30.24	
RA-223	3.28E+04Y	1.00	7.447E+00	7.447E+00	5.314E+00	71.36	
RA-224	1.41E+10Y	1.00	2.556E+02	2.556E+02	0.843E+02	33.00	
RA-226	1602.00Y	1.00	3.246E+02	3.246E+02	5.958E+02	183.56	
PA-234M	4.47E+09Y	1.00	1.168E+02	1.168E+02	0.422E+02	36.15	
TH-234	4.47E+09Y	1.00	9.436E+01	9.436E+01	1.063E+01	11.26	
U-235	7.04E+08Y	1.00	8.977E+00	8.977E+00	2.427E+00	27.04	
	Total Activity :		1.220E+03	1.220E+03			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
NB-95M	3.61D	133.	5.365E+00	7.121E+02	2.480E+02	34.83	
LA-140	12.79D	3.97	1.105E+00	4.391E+00	1.317E+00	30.00	
AM-243	7380.00Y	1.00	1.439E+01	1.439E+01	0.141E+01	9.80	
	Total Activity :		2.086E+01	7.309E+02			

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CD-109	464.00D	1.04	6.333E+01	6.579E+01	0.985E+01	14.97	
SN-126	1.00E+05Y	1.00	6.365E+00	6.365E+00	0.872E+00	13.71	
NP-237	2.14E+06Y	1.00	1.867E+01	1.867E+01	0.254E+01	13.60	
	Total Activity :		8.837E+01	9.083E+01			

Grand Total Activity : 1.329E+03 2.042E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : 1201163-05 Acquisition date : 22-FEB-2012 10:29:18

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
K-40	1460.81	10.67*	3.724E-01	2.087E+01	2.087E+01	20.44	OK
Final Mean for 1 Valid Peaks = 2.087E+01+/- 4.266E+00 (20.44%)							
PB-210	46.50	4.25*	2.378E+00	9.215E+01	9.235E+01	10.77	OK
Final Mean for 1 Valid Peaks = 9.235E+01+/- 9.941E+00 (10.77%)							
PB-211	404.84	2.90*	1.151E+00	1.541E+01	1.541E+01	45.11	OK
	831.96	2.90	5.990E-01	1.114E+01	1.114E+01	62.77	OK
Final Mean for 2 Valid Peaks = 1.329E+01+/- 4.930E+00 (37.10%)							
BI-214	609.31	46.30*	7.958E-01	1.265E+02	1.265E+02	10.83	OK
	1120.29	15.10	4.615E-01	1.361E+02	1.361E+02	10.64	OK
	1764.49	15.80	3.245E-01	1.451E+02	1.451E+02	10.39	OK
	2204.22	4.98	2.817E-01	1.484E+02	1.484E+02	12.14	OK
Final Mean for 4 Valid Peaks = 1.376E+02+/- 7.543E+00 (5.48%)							
PB-214	295.21	19.19	1.499E+00	1.356E+02	1.356E+02	45.01	OK
	351.92	37.19*	1.298E+00	1.387E+02	1.387E+02	27.24	OK
Final Mean for 2 Valid Peaks = 1.379E+02+/- 3.213E+01 (23.31%)							
RN-219	401.80	6.50*	1.158E+00	1.040E+01	1.040E+01	30.24	OK
Final Mean for 1 Valid Peaks = 1.040E+01+/- 3.146E+00 (30.24%)							
RA-223	323.87	3.88*	1.391E+00	7.447E+00	7.447E+00	71.36	OK
Final Mean for 1 Valid Peaks = 7.447E+00+/- 5.314E+00 (71.36%)							
RA-224	240.98	3.95*	1.749E+00	2.556E+02	2.556E+02	33.00	OK
Final Mean for 1 Valid Peaks = 2.556E+02+/- 8.434E+01 (33.00%)							
RA-226	186.21	3.28*	2.074E+00	3.246E+02	3.246E+02	183.56	OK
Final Mean for 1 Valid Peaks = 3.246E+02+/- 5.958E+02 (183.56%)							
PA-234M	1001.03	0.92*	5.083E-01	1.168E+02	1.168E+02	36.15	OK
Final Mean for 1 Valid Peaks = 1.168E+02+/- 4.222E+01 (36.15%)							
TH-234	63.29	3.80*	2.668E+00	9.436E+01	9.436E+01	11.26	OK
Final Mean for 1 Valid Peaks = 9.436E+01+/- 1.063E+01 (11.26%)							

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
U-235	143.76	10.50*	2.377E+00	9.264E+00	9.264E+00	31.53	OK
	163.35	4.70	2.233E+00	8.337E+00	8.337E+00	52.35	OK
	205.31	4.70	1.952E+00	-----	Line Not Found	-----	Absent

Final Mean for 2 Valid Peaks = 8.977E+00+/- 2.427E+00 (27.04%)

Nuclide Type: ACTIVATION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
NB-95M	235.69	25.00*	1.777E+00	5.365E+00	7.121E+02	34.83	OK

Final Mean for 1 Valid Peaks = 7.121E+02+/- 2.480E+02 (34.83%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
LA-140	328.77	20.50	1.374E+00	1.310E+00	5.207E+00	75.79	OK
	487.03	45.50	9.761E-01	9.004E-01	3.578E+00	55.75	OK
	815.85	23.50	6.097E-01	-----	Line Not Found	-----	Absent
	1596.49	95.49*	3.485E-01	1.251E+00	4.972E+00	39.37	OK

Final Mean for 3 Valid Peaks = 4.391E+00+/- 1.317E+00 (30.00%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
AM-243	74.67	66.00*	2.729E+00	1.439E+01	1.439E+01	9.80	OK

Final Mean for 1 Valid Peaks = 1.439E+01+/- 1.411E+00 (9.80%)

Nuclide Type: FISSION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
CD-109	88.03	3.72*	2.722E+00	6.333E+01	6.579E+01	14.97	OK

Final Mean for 1 Valid Peaks = 6.579E+01+/- 9.848E+00 (14.97%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
SN-126	87.57	37.00*	2.723E+00	6.365E+00	6.365E+00	13.71	OK

Final Mean for 1 Valid Peaks = 6.365E+00+/- 8.723E-01 (13.71%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
NP-237	86.50	12.60*	2.726E+00	1.867E+01	1.867E+01	13.60	OK

Final Mean for 1 Valid Peaks = 1.867E+01+/- 2.540E+00 (13.60%)

Flag: "*" = Keyline

Sample ID : 1201163-05 Acquisition date : 22-FEB-2012 10:29:18

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.087E+01	4.266E+00	3.518E+00	3.259E-01	5.933
NB-95M	7.121E+02	2.480E+02	1.368E+02	4.196E+01	5.205
CD-109	6.579E+01	9.848E+00	8.863E+00	1.051E+00	7.423
SN-126	6.365E+00	8.723E-01	8.572E-01	8.760E-02	7.425
LA-140	4.391E+00	1.317E+00	1.367E+00	1.251E-01	3.212
PB-210	9.235E+01	9.941E+00	5.968E+00	4.672E-01	15.472
PB-211	1.329E+01	4.930E+00	9.740E+00	1.025E+00	1.364
BI-214	1.376E+02	7.543E+00	5.806E-01	5.803E-02	236.995
PB-214	1.379E+02	3.213E+01	7.154E-01	1.927E-01	192.719
RN-219	1.040E+01	3.146E+00	4.314E+00	4.533E-01	2.412
RA-223	7.447E+00	5.314E+00	6.802E+00	2.488E+00	1.095
RA-224	2.556E+02	8.434E+01	6.640E+00	2.170E+00	38.493
RA-226	3.246E+02	5.958E+02	8.283E+00	1.520E+01	39.184
PA-234M	1.168E+02	4.222E+01	3.697E+01	3.997E+00	3.159
TH-234	9.436E+01	1.063E+01	7.566E+00	5.627E-01	12.473
U-235	8.977E+00	2.427E+00	2.495E+00	4.471E-01	3.598
NP-237	1.867E+01	2.540E+00	2.515E+00	2.536E-01	7.424
AM-243	1.439E+01	1.411E+00	4.770E-01	4.123E-02	30.176

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-8.175E-01		2.509E+00	3.604E+00	3.857E-01	-0.227
NA-22	9.532E-02		2.386E-01	3.601E-01	3.153E-02	0.265
AL-26	1.186E-01		1.402E-01	2.435E-01	2.225E-02	0.487
TI-44	7.213E-01	+	1.402E-01	3.224E-01	2.548E-02	2.237
SC-46	9.383E-02		2.572E-01	4.385E-01	5.065E-02	0.214
V-48	-2.220E-01		6.211E-01	1.039E+00	1.140E-01	-0.214
CR-51	-5.532E-01		3.837E+00	4.950E+00	1.875E+00	-0.112
MN-54	6.061E-02		2.076E-01	3.549E-01	3.927E-02	0.171
CO-56	1.683E-02		2.698E-01	4.124E-01	4.608E-02	0.041
CO-57	3.066E-02		1.804E-01	3.001E-01	2.982E-02	0.102
CO-58	2.544E-02		2.683E-01	4.115E-01	4.468E-02	0.062
FE-59	1.715E-01		6.104E-01	9.242E-01	9.518E-02	0.186
CO-60	6.276E-02		2.379E-01	3.590E-01	3.082E-02	0.175
ZN-65	1.412E+00		5.305E-01	8.296E-01	7.845E-02	1.702
GA-67	2.164E+03		7.587E+03	2.135E+02	7.482E+02	10.138
SE-75	-4.360E-03		3.810E-01	4.987E-01	2.109E-01	-0.009
RB-82	-3.113E+00		3.896E+00	4.582E+00	4.817E-01	-0.679
RB-83	1.472E-01		4.225E-01	7.061E-01	1.188E-01	0.209
KR-85	4.457E+01		3.987E+01	6.340E+01	6.746E+00	0.703
SR-85	2.546E-01		2.278E-01	3.622E-01	3.854E-02	0.703
Y-88	5.398E-01		2.147E-01	3.577E-01	3.263E-02	1.509
NB-93M	1.335E+01		5.991E+00	8.437E+00	2.260E+00	1.583
NB-94	3.828E-02		2.023E-01	3.444E-01	3.923E-02	0.111
NB-95	6.381E+00		8.191E-01	8.264E-01	8.604E-02	7.721
ZR-95	-2.683E-01		4.386E-01	7.056E-01	7.803E-02	-0.380

Sample ID : 1201163-05 Acquisition date : 22-FEB-2012 10:29:18

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RU-103	-3.086E-01		2.956E-01	4.494E-01	6.968E-02	-0.687
RU-106	-7.092E-01		1.600E+00	2.737E+00	3.883E-01	-0.259
AG-108M	-1.518E-04		2.130E-01	3.283E-01	3.276E-02	0.000
AG-110M	1.389E-01		2.439E-01	3.085E-01	2.898E-02	0.450
SN-113	3.486E-01		3.430E-01	5.068E-01	5.409E-02	0.688
TE123M	-6.043E-02		2.760E-01	3.696E-01	3.336E-02	-0.163
SB-124	1.462E-01		3.046E-01	3.850E-01	3.875E-02	0.380
I-125	5.866E-01		3.327E+00	5.323E+00	5.028E-01	0.110
SB-125	1.548E+00	+	8.795E-01	1.043E+00	1.123E-01	1.484
SB-126	3.668E+00	+	1.861E+00	2.433E+00	2.421E-01	1.508
SB-127	4.436E+01	+	5.405E+01	7.752E+01	7.432E+00	0.572
I-129	2.367E-01		3.571E-01	5.115E-01	5.726E-02	0.463
I-131	-1.727E+00		1.786E+00	2.743E+00	6.059E-01	-0.629
TE-132	-2.757E+01		4.521E+01	6.641E+01	1.854E+01	-0.415
BA-133	1.313E+00		4.679E-01	4.979E-01	1.359E-01	2.637
CS-134	5.129E-01		2.436E-01	3.162E-01	3.181E-02	1.622
CS-135	7.273E+00		3.373E+00	1.829E+00	8.014E-01	3.977
CS-136	1.577E-01		1.086E+00	1.643E+00	1.728E-01	0.096
CS-137	4.909E-02		2.053E-01	3.201E-01	2.994E-02	0.153
LA-138	-1.175E-01		3.344E-01	5.470E-01	4.922E-02	-0.215
CE-139	2.439E-01		2.477E-01	3.783E-01	3.342E-02	0.645
BA-140	-5.236E-01		2.836E+00	4.417E+00	1.488E+00	-0.119
CE-141	2.231E+00		8.204E-01	9.885E-01	2.297E-01	2.257
CE-144	-3.310E-01		1.485E+00	2.456E+00	2.374E-01	-0.135
PM-144	1.708E-01		1.918E-01	3.017E-01	2.930E-02	0.566
PM-145	-1.447E-01		7.444E-01	1.177E+00	7.666E-01	-0.123
PM-146	6.517E-01	+	4.573E-01	7.256E-01	7.754E-02	0.898
ND-147	4.650E+00		6.599E+00	1.045E+01	1.105E+00	0.445
EU-152	2.250E+01	+	3.413E+00	4.095E+00	4.578E-01	5.496
GD-153	5.087E-01		7.183E-01	1.116E+00	1.122E-01	0.456
EU-154	2.649E-01		6.630E-01	1.000E+00	8.761E-02	0.265
EU-155	7.689E+00	+	1.046E+00	1.090E+00	1.099E-01	7.054
EU-156	7.522E-01		6.265E+00	9.616E+00	2.286E+00	0.078
HO-166M	1.512E-01		4.336E-01	5.404E-01	5.330E-02	0.280
HF-172	-2.013E-01		1.333E+00	2.211E+00	2.176E-01	-0.091
LU-172	9.161E-01		4.788E+00	7.704E+00	7.508E-01	0.119
LU-173	7.129E+00		3.367E+00	1.485E+00	6.758E-01	4.801
HF-175	-1.003E-04		3.265E-01	4.210E-01	1.265E-01	0.000
LU-176	-2.993E-01		2.117E-01	2.685E-01	1.119E-01	-1.115
TA-182	6.877E+01	+	7.311E+00	3.785E+00	3.545E-01	18.168
IR-192	5.246E-01		5.574E-01	7.199E-01	7.703E-02	0.729
HG-203	-1.664E-01		3.924E-01	4.975E-01	2.424E-01	-0.334
BI-207	1.137E-01		1.661E-01	2.898E-01	2.999E-02	0.392
TL-208	7.686E-01		6.051E-01	9.589E-01	9.822E-02	0.802
BI-210M	2.635E-01		4.528E-01	5.814E-01	2.392E-01	0.453
BI-212	1.999E+00		1.597E+00	2.517E+00	2.523E-01	0.794
PB-212	2.221E+00		8.059E-01	6.449E-01	2.050E-01	3.445
RA-225	-1.747E+00		1.667E+00	2.618E+00	2.252E-01	-0.667

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-227	1.167E+01	+	4.078E+00	2.560E+00	7.882E-01	4.560
AC-228	1.143E+00	+	1.119E+00	1.343E+00	1.551E-01	0.851
TH-230	1.840E+02	+	3.574E+01	8.213E+01	6.473E+00	2.240
PA-231	2.497E+01		1.313E+01	1.170E+01	5.011E+00	2.133
TH-231	2.930E+00	+	1.893E+00	2.397E+00	3.201E-01	1.223
PA-233	5.616E-01		8.996E-01	1.289E+00	5.828E-01	0.436
PA-234	-1.952E-01		7.304E-01	1.208E+00	1.174E-01	-0.162
AM-241	2.884E+00		5.403E-01	7.944E-01	5.626E-02	3.630
CM-243	-1.772E-02		1.259E+00	1.874E+00	8.986E-01	-0.009

Sample ID : 1201163-05 Acquisition date : 22-FEB-2012 10:29:18

Total number of lines in spectrum 113
Number of unidentified lines 68
Number of lines tentatively identified by NID 45 39.82%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.087E+01	2.087E+01	0.427E+01	20.44	
PB-210	22.26Y	1.00	9.215E+01	9.235E+01	0.994E+01	10.77	
PB-211	3.28E+04Y	1.00	1.329E+01	1.329E+01	0.493E+01	37.10	
BI-214	1602.00Y	1.00	1.376E+02	1.376E+02	0.075E+02	5.48	
PB-214	1602.00Y	1.00	1.379E+02	1.379E+02	0.321E+02	23.31	
RN-219	3.28E+04Y	1.00	1.040E+01	1.040E+01	0.315E+01	30.24	
RA-223	3.28E+04Y	1.00	7.447E+00	7.447E+00	5.314E+00	71.36	
RA-224	1.41E+10Y	1.00	2.556E+02	2.556E+02	0.843E+02	33.00	
RA-226	1602.00Y	1.00	3.246E+02	3.246E+02	5.958E+02	183.56	
PA-234M	4.47E+09Y	1.00	1.168E+02	1.168E+02	0.422E+02	36.15	
TH-234	4.47E+09Y	1.00	9.436E+01	9.436E+01	1.063E+01	11.26	
U-235	7.04E+08Y	1.00	8.977E+00	8.977E+00	2.427E+00	27.04	
			---------	---------			
	Total Activity :		1.220E+03	1.220E+03			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
NB-95M	3.61D	133.	5.365E+00	7.121E+02	2.480E+02	34.83	
LA-140	12.79D	3.97	1.105E+00	4.391E+00	1.317E+00	30.00	
AM-243	7380.00Y	1.00	1.439E+01	1.439E+01	0.141E+01	9.80	
			---------	---------			
	Total Activity :		2.086E+01	7.309E+02			

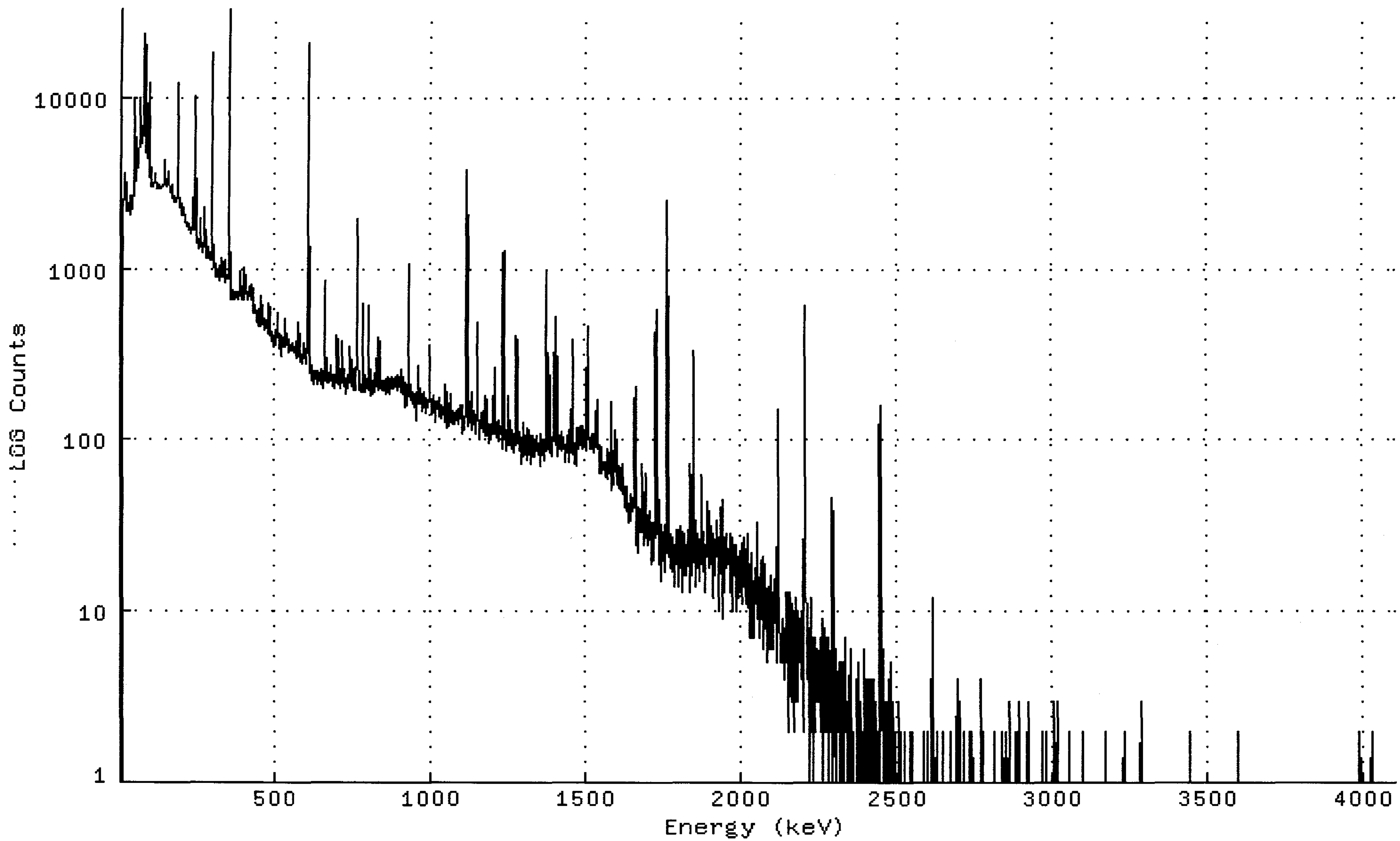
Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CD-109	464.00D	1.04	6.333E+01	6.579E+01	0.985E+01	14.97	
SN-126	1.00E+05Y	1.00	6.365E+00	6.365E+00	0.872E+00	13.71	
NP-237	2.14E+06Y	1.00	1.867E+01	1.867E+01	0.254E+01	13.60	
			---------	---------			
	Total Activity :		8.837E+01	9.083E+01			

Grand Total Activity : 1.329E+03 2.042E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Spectrum : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116305_GE3_GAS1102_176237.CNF;1
Title :
Sample Title: JM-70-31-120128
Start Time: 22-FEB-2012 10:29 Sample Time: 28-JAN-2012 00:00 Energy Offset: -2.78447E-01
Real Time : 0 01:02:01.59 Sample ID : 1201163-05 Energy Slope : 9.99940E-01
Live Time : 0 01:00:00.00 Sample Type: SOLID Energy Quad : 0.00000E+00



Channel Contents for DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116305_GE3_GAS1102_1762

Channel

1:	0	0	0	0	0	0	0	1
9:	384	2419	2637	2496	3182	2689	2779	3502
17:	2825	2439	2426	2469	2115	2178	2131	2154
25:	2168	2297	2280	2385	2031	2178	2146	2591
33:	2355	2135	2207	2308	2605	2417	2361	2571
41:	2625	2780	2912	3006	3210	5264	9653	3337
49:	3232	3977	3732	3477	4866	4841	3784	3873
57:	3934	4285	4752	4998	5177	5249	8668	9821
65:	5417	5318	5532	6567	5537	5530	5733	5845
73:	5966	7212	18815	9205	23042	17404	5855	6209
81:	6458	5297	4688	8842	5404	4314	8748	8991
89:	4487	6679	4781	5921	11850	5237	4875	3461
97:	3224	3778	3728	3182	2967	2975	3072	3109
105:	3072	2952	2968	3029	3156	3166	3137	3203
113:	3492	3190	3146	2982	2929	2925	2880	2887
121:	2904	3012	3063	2900	3055	2971	2912	2970
129:	2939	2915	2936	2965	2922	2936	2976	3019
137:	2976	3057	2999	3024	3069	3016	3199	4172
145:	3590	3023	2971	3023	3085	3097	3065	3158
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329:	966	1083	988	875	911	911	925	889
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393:	651	702	683	689	646	704	734	705
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3201:	1	1	0	0	0	0	0	0
3209:	1	0	0	0	0	0	0	0
3217:	1	0	0	0	0	1	0	0
3225:	0	0	0	2	0	1	0	0
3233:	0	1	0	0	0	0	0	0
3241:	0	0	0	1	0	1	0	0
3249:	1	0	0	0	0	0	0	0
3257:	0	0	0	0	0	0	0	0
3265:	0	0	0	0	0	0	1	0
3273:	0	1	0	0	0	0	0	0
3281:	0	0	3	0	0	0	0	0
3289:	0	0	0	0	0	0	0	0
3297:	1	0	0	0	0	0	0	0
3305:	0	0	0	0	0	0	0	0

3313:	0	0	0	0	0	0	0	0
3321:	0	0	1	0	0	0	0	0
3329:	0	0	0	0	0	0	0	0
3337:	0	0	0	0	0	0	1	0
3345:	0	0	0	0	1	0	0	0
3353:	0	0	0	0	0	1	0	0
3361:	0	0	0	0	0	0	0	0
3369:	0	0	0	0	0	0	1	1
3377:	0	0	0	0	0	0	0	1
3385:	0	0	0	0	0	0	1	0
3393:	0	0	0	0	0	0	0	1
3401:	0	0	0	0	0	0	0	0
3409:	0	0	1	0	0	0	0	0
3417:	0	0	0	0	0	0	0	0
3425:	1	0	0	0	0	0	0	0
3433:	0	1	0	1	0	0	1	0
3441:	2	0	0	0	0	0	0	0
3449:	0	0	0	0	0	0	1	0
3457:	0	0	0	0	0	0	0	0
3465:	0	0	1	0	0	0	0	1
3473:	0	0	0	0	0	0	1	0
3481:	0	1	0	0	0	1	1	0
3489:	1	0	1	0	0	0	0	0
3497:	0	0	0	0	0	0	0	0
3505:	0	0	0	0	1	0	0	0
3513:	0	0	0	0	0	0	0	0
3521:	0	0	0	0	0	0	0	0
3529:	0	0	0	0	0	0	0	0
3537:	0	0	0	0	0	0	0	0
3545:	0	0	0	0	0	1	0	0
3553:	1	1	0	0	0	0	0	0
3561:	0	0	1	0	0	0	0	0
3569:	0	0	0	0	0	0	0	0
3577:	0	0	1	0	0	0	0	0
3585:	0	0	0	0	0	0	0	0
3593:	0	2	0	0	0	0	0	0
3601:	0	0	0	1	0	1	0	0
3609:	0	0	0	0	1	0	0	0
3617:	0	0	0	0	1	0	0	0
3625:	0	1	0	0	0	0	0	0
3633:	0	0	0	1	0	0	0	0
3641:	0	0	0	0	0	1	0	0
3649:	0	0	0	0	0	0	0	0
3657:	0	0	0	0	0	0	0	0
3665:	0	0	1	0	0	0	0	0
3673:	0	0	0	0	0	0	0	0
3681:	0	0	0	0	0	0	0	0
3689:	0	0	0	0	0	0	0	0
3697:	0	0	0	0	0	0	0	0
3705:	1	1	0	1	0	0	0	0
3713:	0	0	1	0	0	1	0	0
3721:	0	0	0	0	1	0	1	0
3729:	0	0	0	0	0	0	0	0
3737:	0	0	0	0	0	0	0	0
3745:	1	0	0	0	0	0	0	0
3753:	1	0	1	0	0	0	0	0
3761:	1	0	1	1	0	0	1	0
3769:	0	1	0	0	0	0	0	0
3777:	0	0	0	0	0	0	0	0
3785:	1	0	1	0	0	0	0	1

3793:	0	0	0	0	0	0	0	0
3801:	0	0	0	0	0	0	0	0
3809:	0	0	0	1	0	0	0	0
3817:	0	0	0	0	0	0	0	0
3825:	0	0	0	0	0	0	0	0
3833:	0	0	0	0	0	0	0	0
3841:	0	1	0	0	0	0	0	0
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	0	0	0	0	0
3865:	0	0	0	0	0	1	0	0
3873:	0	0	0	0	0	0	0	0
3881:	0	0	1	0	0	0	0	1
3889:	0	0	0	0	1	1	0	0
3897:	0	0	1	0	0	0	0	0
3905:	0	0	0	0	0	0	0	0
3913:	0	0	0	0	0	0	0	0
3921:	0	1	0	0	0	0	0	0
3929:	0	0	0	0	0	0	0	1
3937:	0	0	0	0	0	0	0	0
3945:	0	0	0	0	0	0	0	1
3953:	0	0	0	0	0	0	1	0
3961:	0	0	0	0	0	0	0	0
3969:	0	0	0	0	0	0	0	0
3977:	0	0	0	0	0	2	0	0
3985:	1	0	0	0	0	1	0	0
3993:	1	0	1	0	0	1	1	0
4001:	0	0	0	0	0	0	0	0
4009:	1	0	0	0	0	0	1	0
4017:	0	1	1	2	0	0	0	0
4025:	0	0	0	0	0	0	0	0
4033:	0	0	0	1	0	0	1	0
4041:	0	0	0	0	0	0	1	0
4049:	0	0	0	0	0	0	0	0
4057:	0	0	0	0	0	1	0	1
4065:	0	0	0	0	0	0	0	0
4073:	0	0	0	0	0	0	0	0
4081:	1	0	0	0	0	0	0	0
4089:	0	0	0	0	0	0	0	0

KB 2/22/12

Sample ID : 1201163-06 Acquisition date : 22-FEB-2012 11:07:23

VAX/VMS Peak Search Report Generated 22-FEB-2012 12:08:10.38

```
Configuration      : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116306_GE2_GAS1102_176242.
Analyses by        : PEAK V16.9 ENBACK V1.6 PEAKEFF V2.2
Client ID          : JM-88-31-120128
Deposition Date    :
Sample Date        : 28-JAN-2012 00:00:00 Acquisition date : 22-FEB-2012 11:07:23
Sample ID          : 1201163-06           Sample Quantity  : 4.07100E+02 gram
Sample type        : SOLID                Sample Geometry  : 0
Detector name      : GE2                  Detector Geometry: GAS-1102
Elapsed live time: 0 01:00:00.00          Elapsed real time: 0 01:00:30.61  0.8%
Start channel      : 5                    End channel      : 4096
Sensitivity        : 2.40000              Gaussian         : 15.00000
Critical level     : Yes
```

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	26.45	1048	14026	4.31	26.39	23	7	37.9		
0	31.80	280	8473	1.03	31.74	31	4	93.5		
0	46.20*	4375	18688	1.53	46.15	44	5	9.2		PB-210
0	53.75*	2114	16552	1.40	53.70	51	5	18.8		
0	63.35*	9987	22287	1.69	63.30	61	5	4.9		TH-234
1	67.99	1615	9556	1.44	67.94	67	16	15.5	3.92E+03	
1	71.17	529	18994	1.44	71.13	67	16	73.9		
1	75.17*	25926	18746	1.45	75.13	67	16	1.9		AM-243
0	86.69	4472	22264	1.25	86.66	86	4	9.6		NP-237
										SN-126
										CD-109
0	92.92*	14616	26531	1.48	92.88	90	7	4.1		GA-67
0	98.43	998	13151	2.44	98.40	98	5	35.3		
9	110.07*	1161	24311	3.25	110.04	105	12	51.0	3.65E+00	
9	113.26	1486	17055	2.48	113.23	105	12	29.8		
0	143.85*	2209	18578	1.28	143.84	141	7	20.9		U-235
0	154.15	1266	16133	1.46	154.14	152	6	32.3		
0	163.44*	668	11821	1.63	163.44	162	5	49.6		U-235
1	183.15	161	4459	1.33	183.15	182	9	101.7	4.77E+00	
1	186.10*	21261	8668	1.46	186.10	182	9	1.8		RA-226
0	195.91	621	12086	1.88	195.91	194	6	56.6		
0	205.31	698	10679	1.57	205.31	203	6	47.6		U-235
1	236.03	2248	6987	1.70	236.05	232	15	11.8	9.20E+00	NB-95M
1	241.97*	17963	5215	1.39	241.99	232	15	1.9		RA-224
4	256.14*	730	5029	1.45	256.16	254	9	28.4	1.60E+01	
4	258.82	1411	6120	1.81	258.84	254	9	17.7		
6	269.97	3481	8510	2.79	270.00	266	12	9.8	1.82E+01	
6	274.53	1137	7285	2.24	274.56	266	12	26.6		
0	285.94	216	6372	1.14	285.98	284	6	118.3		
0	295.15*	39441	8199	1.46	295.19	291	8	1.3		PB-214
0	299.71	287	4030	0.98	299.75	299	4	63.7		GA-67
0	305.16	305	5379	1.96	305.21	303	6	77.3		
0	314.06	255	5088	1.68	314.11	312	6	89.4		
0	323.68	498	5115	1.33	323.73	322	6	46.2		RA-223
0	329.75	421	4332	1.64	329.81	328	5	47.8		
0	338.14*	250	4277	1.68	338.20	337	5	79.4		

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Sample ID : 1201163-06 Acquisition date : 22-FEB-2012 11:07:23

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	351.79*	67663	7102	1.43	351.85	347	9	0.9		PB-214
0	387.75	1053	5589	3.39	387.83	384	8	25.3		
1	401.75	796	4281	1.86	401.83	398	12	27.0	3.51E+00	RN-219
1	405.09	629	3680	1.73	405.17	398	12	29.9		PB-211
0	426.88	576	5204	2.00	426.97	423	8	44.3		
0	455.07	420	3318	1.40	455.17	452	7	46.6		
0	461.56	335	3316	1.59	461.66	459	7	57.9		
0	480.28	455	2952	1.87	480.39	477	7	40.9		
0	486.70	467	2832	1.57	486.82	484	7	38.9		
0	510.77*	753	3228	2.68	510.89	507	9	28.4		
0	533.55	178	2106	1.64	533.68	532	6	82.7		
0	560.96	128	1888	1.74	561.10	559	6	108.5		
0	580.75	428	2682	1.48	580.90	577	8	43.0		
0	609.06*	50365	3056	1.75	609.22	604	10	1.0		BI-214
0	621.40	90	1170	2.71	621.56	620	5	115.5		RU-106
0	639.08	114	1384	3.28	639.25	637	6	105.6		
0	649.76	125	1582	2.65	649.94	646	7	107.0		
0	665.25	1292	2260	1.97	665.43	661	9	14.4		
0	702.84	515	1606	1.88	703.04	700	7	27.2		
0	719.44	454	1977	1.80	719.65	716	9	36.5		
0	734.38	99	1304	5.50	734.58	732	6	117.4		
0	742.26	399	2149	2.06	742.47	738	10	44.6		
0	752.23	195	1240	1.63	752.45	750	6	58.9		
0	767.93*	4901	2618	2.01	768.15	762	12	5.1		
0	785.76	1117	1868	2.06	785.99	782	9	15.2		
0	805.71	1051	1943	1.75	805.95	802	9	16.3		
0	820.53	149	1255	1.75	820.77	819	6	77.1		
0	825.58	113	1019	2.17	825.82	824	5	86.2		
0	831.44	310	1474	1.85	831.68	829	7	42.7		PB-211
0	838.81	571	1749	1.83	839.05	835	8	26.7		
0	933.63	2554	2101	2.01	933.91	928	11	8.0		
0	943.81	142	1615	5.09	944.10	941	9	103.5		
0	963.42	299	1441	1.85	963.72	960	8	45.6		
0	1000.48*	618	1488	2.15	1000.79	997	9	23.9		PA-234M
0	1051.60	333	1494	1.83	1051.93	1047	10	44.8		
0	1069.37	249	1265	2.02	1069.70	1066	9	53.1		
0	1103.91	89	955	2.60	1104.25	1101	7	117.5		
0	1119.80*	10670	1501	2.08	1120.16	1114	11	2.4		BI-214
0	1133.48	173	1141	1.78	1133.83	1130	8	69.5		
0	1154.71	1197	1022	2.19	1155.07	1151	8	10.9		
0	1181.90	187	1052	2.75	1182.28	1179	9	64.0		
0	1207.25	329	1001	2.36	1207.63	1203	9	36.4		
0	1237.61	3884	1032	2.20	1238.00	1233	10	4.5		
0	1253.56	328	1100	3.59	1253.96	1249	11	40.8		
0	1280.59	1051	1057	2.34	1281.00	1277	11	13.5		
3	1377.11	2668	629	2.27	1377.56	1370	20	5.0	8.23E-01	
3	1384.73	481	644	2.35	1385.18	1370	20	19.6		
2	1400.88	864	660	2.39	1401.34	1396	18	12.0	6.75E-01	
2	1407.38	1493	645	2.30	1407.84	1396	18	7.7		
0	1460.00*	721	1253	2.47	1460.47	1454	13	21.6		K-40
0	1508.55	1268	1012	2.47	1509.05	1504	10	10.9		

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
4	1537.86	310	788	2.63	1538.37	1532	18	32.8	1.12E+00	
4	1542.92	261	532	2.01	1543.43	1532	18	31.4		
0	1582.08	376	621	2.42	1582.61	1578	9	26.0		
3	1593.95	110	424	2.16	1594.48	1591	13	61.6	1.34E+00	
3	1598.75	208	560	2.69	1599.28	1591	13	42.2		
6	1656.86	29	80	1.46	1657.41	1656	10	80.0	1.72E+00	
6	1660.65	579	305	2.71	1661.20	1656	10	13.4		
0	1682.87	100	272	2.06	1683.44	1679	8	60.4		
0	1692.02	170	415	2.45	1692.58	1688	12	50.4		
3	1722.82	38	53	3.21	1723.40	1723	13	51.5	1.59E+00	
3	1728.80	1794	214	2.63	1729.38	1723	13	5.5		
2	1757.65	33	56	2.67	1758.24	1757	15	60.1	2.80E+00	
2	1763.74*	8528	245	2.52	1764.33	1757	15	2.3		BI-214
3	1837.75	142	274	2.93	1838.37	1834	19	42.3	1.80E+00	
3	1846.71	1167	196	2.58	1847.33	1834	19	7.2		
0	1871.79	155	312	3.29	1872.42	1865	13	49.5		
3	1889.51	85	212	3.29	1890.15	1885	18	68.6	2.30E+00	
3	1895.38	88	195	3.30	1896.02	1885	18	66.8		
4	1935.20	77	259	3.65	1935.86	1929	15	84.8	1.72E+00	
4	1940.17	45	141	2.00	1940.83	1929	15	88.0		
0	2008.20	63	161	8.00	2008.88	2003	12	84.6		
0	2019.05	98	151	8.66	2019.74	2014	13	55.6		
0	2117.58*	564	112	2.65	2118.31	2113	11	11.2		
0	2203.05	2292	95	2.77	2203.80	2196	16	4.6		BI-214
0	2246.66	21	33	1.35	2247.44	2241	12116.0			
0	2292.23	141	30	1.74	2293.02	2288	10	22.2		
0	2446.43	615	21	3.23	2447.28	2440	13	8.6		
0	2481.74	14	2	1.85	2482.60	2478	11	70.0		
0	2613.31*	93	3	3.18	2614.22	2609	11	22.9		
0	2622.14	5	2	1.82	2623.05	2620	6112.1			
0	2767.30*	18	3	4.82	2768.27	2763	11	62.4		

Sample ID : 1201163-06 Acquisition date : 22-FEB-2012 11:07:23

Total number of lines in spectrum	116	
Number of unidentified lines	65	
Number of lines tentatively identified by NID	51	43.97%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.720E+01	2.720E+01	0.659E+01	24.23	
PB-210	22.26Y	1.00	8.611E+01	8.630E+01	1.126E+01	13.04	
PB-211	3.28E+04Y	1.00	3.074E+01	3.074E+01	0.788E+01	25.62	
BI-214	1602.00Y	1.00	2.340E+02	2.340E+02	0.123E+02	5.24	
PB-214	1602.00Y	1.00	2.417E+02	2.417E+02	0.162E+02	6.72	
RN-219	3.28E+04Y	1.00	1.809E+01	1.809E+01	0.521E+01	28.78	
RA-223	3.28E+04Y	1.00	1.609E+01	1.609E+01	0.759E+01	47.19	
RA-224	1.41E+10Y	1.00	4.645E+02	4.645E+02	0.434E+02	9.34	
RA-226	1602.00Y	1.00	5.694E+02	5.694E+02	10.43E+02	183.16	
PA-234M	4.47E+09Y	1.00	2.067E+02	2.067E+02	0.535E+02	25.88	
TH-234	4.47E+09Y	1.00	1.926E+02	1.926E+02	0.202E+02	10.47	
U-235	7.04E+08Y	1.00	1.459E+01	1.459E+01	0.324E+01	22.24	
			---------	---------			
	Total Activity :		2.102E+03	2.102E+03			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
GA-67	3.26D	225.	2.273E+00	5.118E+02	17.01E+02	332.39	
NB-95M	3.61D	133.	9.056E+00	1.208E+03	0.181E+03	14.95	
AM-243	7380.00Y	1.00	2.788E+01	2.788E+01	0.330E+01	11.82	
			---------	---------			
	Total Activity :		3.921E+01	1.748E+03			

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RU-106	368.20D	1.05	1.942E+00	2.037E+00	2.370E+00	116.33	
CD-109	464.00D	1.04	8.469E+01	8.798E+01	1.639E+01	18.62	
SN-126	1.00E+05Y	1.00	8.514E+00	8.514E+00	1.496E+00	17.57	
NP-237	2.14E+06Y	1.00	2.500E+01	2.500E+01	0.434E+01	17.35	
			---------	---------			
	Total Activity :		1.201E+02	1.235E+02			

Grand Total Activity : 2.261E+03 3.973E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
K-40	1460.81	10.67*	4.582E-01	2.720E+01	2.720E+01	24.23	OK
	Final Mean for 1 Valid Peaks = 2.720E+01+/- 6.590E+00 (24.23%)						
PB-210	46.50	4.25*	2.204E+00	8.611E+01	8.630E+01	13.04	OK
	Final Mean for 1 Valid Peaks = 8.630E+01+/- 1.126E+01 (13.04%)						
PB-211	404.84	2.90*	1.241E+00	3.225E+01	3.225E+01	31.51	OK
	831.96	2.90	6.924E-01	2.846E+01	2.846E+01	43.80	OK
	Final Mean for 2 Valid Peaks = 3.074E+01+/- 7.877E+00 (25.62%)						
BI-214	609.31	46.30*	8.915E-01	2.250E+02	2.250E+02	9.87	OK
	1120.29	15.10	5.508E-01	2.366E+02	2.366E+02	10.39	OK
	1764.49	15.80	4.084E-01	2.438E+02	2.438E+02	10.30	OK
	2204.22	4.98	3.644E-01	2.329E+02	2.329E+02	11.53	OK
	Final Mean for 4 Valid Peaks = 2.340E+02+/- 1.226E+01 (5.24%)						
PB-214	295.21	19.19	1.574E+00	2.408E+02	2.409E+02	9.34	OK
	351.92	37.19*	1.383E+00	2.426E+02	2.426E+02	9.67	OK
	Final Mean for 2 Valid Peaks = 2.417E+02+/- 1.624E+01 (6.72%)						
RN-219	401.80	6.50*	1.248E+00	1.809E+01	1.809E+01	28.78	OK
	Final Mean for 1 Valid Peaks = 1.809E+01+/- 5.206E+00 (28.78%)						
RA-223	323.87	3.88*	1.472E+00	1.609E+01	1.609E+01	47.19	OK
	Final Mean for 1 Valid Peaks = 1.609E+01+/- 7.593E+00 (47.19%)						
RA-224	240.98	3.95*	1.806E+00	4.645E+02	4.645E+02	9.34	OK
	Final Mean for 1 Valid Peaks = 4.645E+02+/- 4.338E+01 (9.34%)						
RA-226	186.21	3.28*	2.099E+00	5.694E+02	5.694E+02	183.16	OK
	Final Mean for 1 Valid Peaks = 5.694E+02+/- 1.043E+03 (183.16%)						
PA-234M	1001.03	0.92*	5.993E-01	2.067E+02	2.067E+02	25.88	OK
	Final Mean for 1 Valid Peaks = 2.067E+02+/- 5.350E+01 (25.88%)						
TH-234	63.29	3.80*	2.516E+00	1.926E+02	1.926E+02	10.47	OK
	Final Mean for 1 Valid Peaks = 1.926E+02+/- 2.016E+01 (10.47%)						

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
U-235	143.76	10.50*	2.361E+00	1.644E+01	1.644E+01	27.44	OK
	163.35	4.70	2.238E+00	1.170E+01	1.170E+01	53.16	OK
	205.31	4.70	1.990E+00	1.376E+01	1.376E+01	51.35	OK

Final Mean for 3 Valid Peaks = 1.459E+01+/- 3.244E+00 (22.24%)

Nuclide Type: ACTIVATION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
GA-67	93.31	35.70*	2.610E+00	2.892E+01	6.513E+03	350.91	OK
	208.95	2.24	1.970E+00	----- Line	Not Found	-----	Absent
	300.22	16.00	1.555E+00	2.125E+00	4.784E+02	356.62	OK

Final Mean for 2 Valid Peaks = 5.118E+02+/- 1.701E+03 (332.39%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
NB-95M	235.69	25.00*	1.831E+00	9.056E+00	1.208E+03	14.95	OK

Final Mean for 1 Valid Peaks = 1.208E+03+/- 1.806E+02 (14.95%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
AM-243	74.67	66.00*	2.598E+00	2.788E+01	2.788E+01	11.82	OK

Final Mean for 1 Valid Peaks = 2.788E+01+/- 3.297E+00 (11.82%)

Nuclide Type: FISSION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
RU-106	621.84	9.80*	8.768E-01	1.942E+00	2.037E+00	116.33	OK

Final Mean for 1 Valid Peaks = 2.037E+00+/- 2.370E+00 (116.33%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
CD-109	88.03	3.72*	2.618E+00	8.469E+01	8.798E+01	18.62	OK

Final Mean for 1 Valid Peaks = 8.798E+01+/- 1.639E+01 (18.62%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
SN-126	87.57	37.00*	2.618E+00	8.514E+00	8.514E+00	17.57	OK

Final Mean for 1 Valid Peaks = 8.514E+00+/- 1.496E+00 (17.57%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
NP-237	86.50	12.60*	2.619E+00	2.500E+01	2.500E+01	17.35	OK

Final Mean for 1 Valid Peaks = 2.500E+01+/- 4.336E+00 (17.35%)

Flag: "*" = Keyline

---- Identified Nuclides ----

Nuclide	Activity (pCi/gram)	Act error	MDA (pCi/gram)	MDA error	Act/MDA
K-40	2.720E+01	6.590E+00	4.747E+00	4.867E-01	5.730
GA-67	5.118E+02	1.701E+03	2.493E+02	8.749E+02	2.053
NB-95M	1.208E+03	1.806E+02	2.000E+02	1.644E+01	6.040
RU-106	2.037E+00	2.370E+00	3.915E+00	5.302E-01	0.520
CD-109	8.798E+01	1.639E+01	1.405E+01	2.167E+00	6.263
SN-126	8.514E+00	1.496E+00	1.359E+00	1.921E-01	6.265
PB-210	8.630E+01	1.126E+01	9.716E+00	8.144E-01	8.882
PB-211	3.074E+01	7.877E+00	1.472E+01	1.328E+00	2.088
BI-214	2.340E+02	1.226E+01	8.572E-01	7.693E-02	272.999
PB-214	2.417E+02	1.624E+01	1.047E+00	9.168E-02	230.871
RN-219	1.809E+01	5.206E+00	6.525E+00	5.875E-01	2.772
RA-223	1.609E+01	7.593E+00	9.860E+00	8.452E-01	1.632
RA-224	4.645E+02	4.338E+01	9.642E+00	7.934E-01	48.173
RA-226	5.694E+02	1.043E+03	1.233E+01	2.257E+01	46.194
PA-234M	2.067E+02	5.350E+01	5.195E+01	4.770E+00	3.979
TH-234	1.926E+02	2.016E+01	1.165E+01	9.706E-01	16.528
U-235	1.459E+01	3.244E+00	3.743E+00	6.480E-01	3.897
NP-237	2.500E+01	4.336E+00	3.530E+00	4.893E-01	7.082
AM-243	2.788E+01	3.297E+00	7.689E-01	8.428E-02	36.261

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
BE-7	-3.400E-01		3.475E+00	5.358E+00	4.954E-01	-0.063
NA-22	-4.006E-02		3.430E-01	4.967E-01	4.895E-02	-0.081
AL-26	-2.986E-02		1.657E-01	2.881E-01	2.604E-02	-0.104
TI-44	1.234E+00	+	2.290E-01	5.043E-01	4.728E-02	2.447
SC-46	-3.586E-01		3.710E-01	6.035E-01	5.410E-02	-0.594
V-48	-1.606E-01		8.659E-01	1.429E+00	1.308E-01	-0.112
CR-51	1.629E+00		5.699E+00	7.246E+00	6.526E-01	0.225
MN-54	2.985E-01		4.191E-01	5.082E-01	4.562E-02	0.587
CO-56	-1.216E-01		3.933E-01	5.826E-01	5.231E-02	-0.209
CO-57	1.592E-01		2.693E-01	4.410E-01	3.740E-02	0.361
CO-58	-6.823E-02		3.882E-01	5.791E-01	5.203E-02	-0.118
FE-59	-1.439E-01		8.391E-01	1.226E+00	1.217E-01	-0.117
CO-60	2.964E-01		3.254E-01	4.893E-01	4.537E-02	0.606
ZN-65	9.259E+00		1.278E+00	1.581E+00	1.469E-01	5.856
SE-75	-4.229E-01		5.709E-01	7.187E-01	5.956E-02	-0.588
RB-82	-2.430E+00		5.430E+00	6.340E+00	5.658E-01	-0.383
RB-83	1.800E-01		6.116E-01	1.004E+00	1.606E-01	0.179
KR-85	7.729E+01		5.737E+01	8.981E+01	8.316E+00	0.861
SR-85	4.417E-01		3.279E-01	5.133E-01	4.753E-02	0.861
Y-88	6.795E-01		2.894E-01	4.854E-01	4.333E-02	1.400
NB-93M	2.908E+01		1.316E+01	1.693E+01	5.096E+00	1.718
NB-94	1.004E-01		2.937E-01	4.924E-01	4.420E-02	0.204
NB-95	1.614E+01		1.708E+00	1.387E+00	1.236E-01	11.640
ZR-95	-2.417E-01		8.412E-01	9.917E-01	9.660E-02	-0.244

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
RU-103	-3.794E-01		3.875E-01	6.478E-01	9.433E-02	-0.586
AG-108M	1.122E-01		3.046E-01	4.640E-01	4.091E-02	0.242
AG-110M	-8.154E-03		3.205E-01	4.453E-01	3.852E-02	-0.018
SN-113	2.077E-02		4.784E-01	7.461E-01	6.869E-02	0.028
TE123M	2.556E-01		4.222E-01	5.567E-01	4.478E-02	0.459
SB-124	3.635E-01		3.682E-01	5.707E-01	5.142E-02	0.637
I-125	1.940E+00		5.697E+00	8.946E+00	9.175E-01	0.217
SB-125	3.105E+00	+	1.411E+00	1.546E+00	1.434E-01	2.009
SB-126	8.326E+00	+	3.144E+00	3.550E+00	3.128E-01	2.345
SB-127	3.136E+01		6.477E+01	1.103E+02	9.606E+00	0.284
I-129	2.009E-01		6.266E-01	8.762E-01	1.074E-01	0.229
I-131	-6.005E-01		2.399E+00	4.149E+00	3.662E-01	-0.145
TE-132	1.978E+01		6.729E+01	9.925E+01	8.147E+00	0.199
BA-133	2.526E-01		4.382E-01	6.349E-01	8.450E-02	0.398
CS-134	2.351E+00		3.888E-01	5.390E-01	4.861E-02	4.361
CS-135	1.495E+01		2.095E+00	2.748E+00	2.259E-01	5.442
CS-136	1.120E+00		1.573E+00	2.362E+00	2.238E-01	0.474
CS-137	6.532E-01		3.191E-01	4.978E-01	4.300E-02	1.312
LA-138	1.308E-01		4.508E-01	7.379E-01	7.438E-02	0.177
CE-139	3.629E-01		3.738E-01	5.600E-01	4.458E-02	0.648
BA-140	-1.944E+00		4.121E+00	6.190E+00	2.062E+00	-0.314
LA-140	4.068E+00		1.327E+00	2.340E+00	2.283E-01	1.738
CE-141	4.158E+00		1.368E+00	1.506E+00	3.433E-01	2.761
CE-144	-1.027E+00		2.227E+00	3.610E+00	3.010E-01	-0.284
PM-144	2.465E-01		2.767E-01	4.268E-01	3.734E-02	0.578
PM-145	-1.509E+00		1.595E+00	1.940E+00	1.267E+00	-0.778
PM-146	1.726E+00	+	8.231E-01	1.038E+00	9.551E-02	1.663
ND-147	5.171E+00		9.558E+00	1.483E+01	1.370E+00	0.349
EU-152	3.940E+01	+	5.874E+00	5.732E+00	6.953E-01	6.873
GD-153	1.630E-01		1.206E+00	1.616E+00	1.884E-01	0.101
EU-154	-1.403E-01		9.525E-01	1.378E+00	1.358E-01	-0.102
EU-155	1.029E+01	+	1.785E+00	1.764E+00	2.445E-01	5.834
EU-156	-7.858E-01		9.255E+00	1.384E+01	3.179E+00	-0.057
HO-166M	-3.437E-01		5.504E-01	7.451E-01	6.547E-02	-0.461
HF-172	-9.005E-01		1.991E+00	3.234E+00	2.725E-01	-0.278
LU-172	4.527E-01		6.357E+00	1.050E+01	9.736E-01	0.043
LU-173	1.378E+01		1.790E+00	2.224E+00	1.827E-01	6.194
HF-175	-1.449E-01		4.918E-01	6.151E-01	5.355E-02	-0.236
LU-176	3.373E-01		2.701E-01	3.967E-01	3.347E-02	0.850
TA-182	1.195E+02	+	1.241E+01	5.564E+00	5.164E-01	21.479
IR-192	-1.003E-01		6.822E-01	1.052E+00	9.711E-02	-0.095
HG-203	-1.372E-01		5.573E-01	7.072E-01	5.979E-02	-0.194
BI-207	2.137E-02		2.540E-01	4.140E-01	3.788E-02	0.052
TL-208	1.747E+00		8.964E-01	1.398E+00	1.272E-01	1.250
BI-210M	2.627E-02		6.515E-01	8.339E-01	6.862E-02	0.032
BI-212	-3.423E-01		2.916E+00	3.476E+00	3.068E-01	-0.098
PB-212	5.670E+00		7.777E-01	1.002E+00	8.244E-02	5.658
RA-225	-1.182E+00		2.773E+00	4.310E+00	4.001E-01	-0.274

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
TH-227	1.970E+01	+	2.945E+00	3.840E+00	3.157E-01	5.132
AC-228	-5.560E-01		1.106E+00	1.820E+00	1.637E-01	-0.305
TH-230	3.148E+02	+	5.834E+01	1.285E+02	1.198E+01	2.451
PA-231	1.043E+00		1.341E+01	1.703E+01	1.431E+00	0.061
TH-231	1.048E+01	+	4.288E+00	4.194E+00	6.177E-01	2.500
PA-233	2.340E+00		1.530E+00	1.877E+00	4.203E-01	1.247
PA-234	-8.847E-01		1.100E+00	1.777E+00	1.486E-01	-0.498
AM-241	4.037E+00		8.466E-01	1.238E+00	9.257E-02	3.262
CM-243	3.539E-01		1.846E+00	2.698E+00	2.213E-01	0.131

Summary of Nuclide Activity
Sample ID : 1201163-06
Acquisition date : 22-FEB-2012 11:07:23

Total number of lines in spectrum	116	
Number of unidentified lines	65	
Number of lines tentatively identified by NID	51	43.97%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.720E+01	2.720E+01	0.659E+01	24.23	
PB-210	22.26Y	1.00	8.611E+01	8.630E+01	1.126E+01	13.04	
PB-211	3.28E+04Y	1.00	3.074E+01	3.074E+01	0.788E+01	25.62	
BI-214	1602.00Y	1.00	2.340E+02	2.340E+02	0.123E+02	5.24	
PB-214	1602.00Y	1.00	2.417E+02	2.417E+02	0.162E+02	6.72	
RN-219	3.28E+04Y	1.00	1.809E+01	1.809E+01	0.521E+01	28.78	
RA-223	3.28E+04Y	1.00	1.609E+01	1.609E+01	0.759E+01	47.19	
RA-224	1.41E+10Y	1.00	4.645E+02	4.645E+02	0.434E+02	9.34	
RA-226	1602.00Y	1.00	5.694E+02	5.694E+02	10.43E+02	183.16	
PA-234M	4.47E+09Y	1.00	2.067E+02	2.067E+02	0.535E+02	25.88	
TH-234	4.47E+09Y	1.00	1.926E+02	1.926E+02	0.202E+02	10.47	
U-235	7.04E+08Y	1.00	1.459E+01	1.459E+01	0.324E+01	22.24	
			---------	---------			
	Total Activity :		2.102E+03	2.102E+03			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
GA-67	3.26D	225.	2.273E+00	5.118E+02	17.01E+02	332.39	
NB-95M	3.61D	133.	9.056E+00	1.208E+03	0.181E+03	14.95	
AM-243	7380.00Y	1.00	2.788E+01	2.788E+01	0.330E+01	11.82	
			---------	---------			
	Total Activity :		3.921E+01	1.748E+03			

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RU-106	368.20D	1.05	1.942E+00	2.037E+00	2.370E+00	116.33	
CD-109	464.00D	1.04	8.469E+01	8.798E+01	1.639E+01	18.62	
SN-126	1.00E+05Y	1.00	8.514E+00	8.514E+00	1.496E+00	17.57	
NP-237	2.14E+06Y	1.00	2.500E+01	2.500E+01	0.434E+01	17.35	
			---------	---------			
	Total Activity :		1.201E+02	1.235E+02			

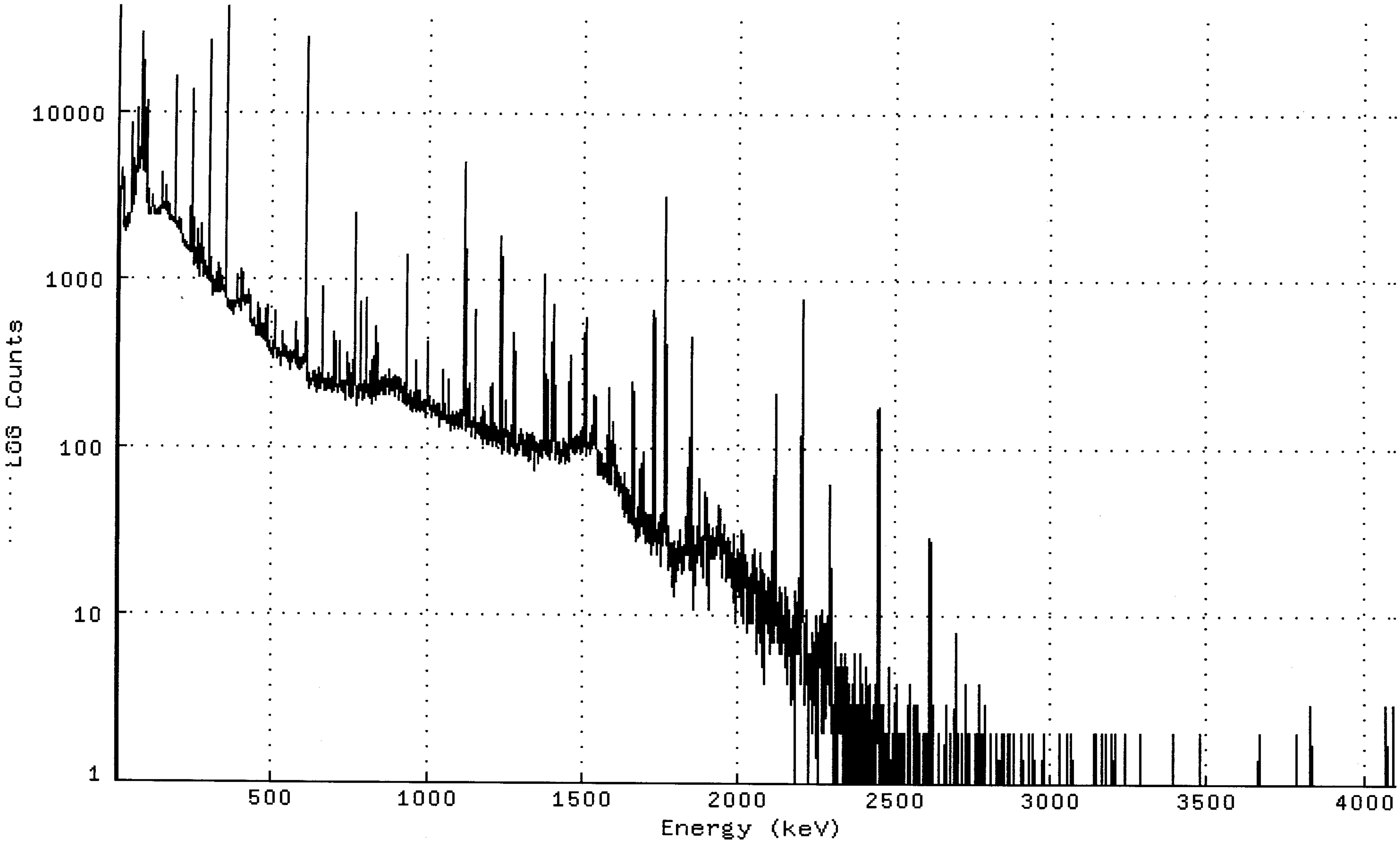
Grand Total Activity : 2.261E+03 3.973E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Spectrum : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116306_GE2_GAS1102_176242.CNF;1
Title :
Sample Title: JM-88-31-120128
Start Time: 22-FEB-2012 11:07
Real Time : 0 01:00:30.61
Live Time : 0 01:00:00.00

Sample Time: 28-JAN-2012 00:00
Sample ID : 1201163-06
Sample Type: SOLID

Energy Offset: 6.87229E-02
Energy Slope : 9.99625E-01
Energy Quad : 0.00000E+00



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Channel Contents for DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116306_GE2_GAS1102_1762

Channel

1:	0	0	0	0	0	1	3	1128
9:	2441	3019	3903	3353	4108	4363	3904	4498
17:	3446	2602	2727	2406	2077	2021	1914	2120
25:	2213	2266	2289	2241	2031	2032	2092	2406
33:	2141	2114	2189	2230	2322	2103	2263	2327
41:	2473	2531	2567	2731	2823	6576	8291	2704
49:	2856	3789	3206	3177	5042	4104	3144	3218
57:	3474	3769	4039	4384	4586	4823	10362	8138
65:	4401	4474	5114	5902	4771	4715	5058	5058
73:	5210	8668	19990	9080	28802	13781	5475	5270
81:	6096	4361	4686	8612	4397	4258	10258	7829
89:	4391	6618	3806	7739	11374	4522	4380	2794
97:	2670	3371	3276	2613	2507	2382	2437	2384
105:	2462	2539	2468	2501	2747	2726	2794	2737
113:	3082	2733	2607	2473	2409	2429	2395	2478
121:	2439	2503	2543	2400	2432	2493	2483	2572
129:	2526	2416	2555	2486	2407	2530	2540	2569
137:	2593	2574	2646	2688	2613	2709	3035	4271
145:	2990	2577	2603	2710	2744	2797	2803	2763
153:	2832	3506	3033	2700	2565	2683	2664	2501
161:	2475	2385	2819	2641	2321	2334	2310	2246
169:	2240	2361	2266	2207	2221	2256	2199	2174
177:	2155	2203	2192	2249	2259	2225	2352	2212
185:	5053	15818	6815	2124	2181	2076	2104	2073
193:	2006	2110	2170	2281	2106	2064	1976	1992
201:	1951	1977	1845	1910	2230	1972	1726	1694
209:	1687	1696	1822	1637	1678	1666	1636	1678
217:	1543	1590	1501	1491	1615	1539	1541	1492
225:	1548	1553	1485	1558	1467	1534	1459	1425
233:	1448	1445	1877	2701	1692	1615	1659	1422
241:	4287	13426	4007	1304	1221	1247	1207	1256
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265:	1141	1029	1082	1192	2127	2046	2043	1515
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289:	989	1034	1059	1043	1057	4523	25940	11866
297:	1186	970	1035	1310	955	1017	1004	1021
305:	1018	891	905	845	797	908	828	898
313:	851	979	932	838	845	830	876	884
321:	836	834	967	1214	908	831	859	870
329:	965	1120	966	832	903	957	911	851
337:	849	1021	967	852	841	877	903	833
345:	869	830	880	877	1035	1496	17150	42881
353:	8957	810	694	737	679	708	693	667
361:	700	663	668	664	668	734	642	694
369:	670	686	725	700	687	726	611	715
377:	715	706	729	694	707	720	678	674
385:	711	845	951	921	1057	785	698	736
393:	683	681	714	753	735	642	734	698
401:	893	1143	790	806	1076	940	731	757
409:	734	784	699	718	739	691	709	759
417:	726	712	727	784	723	714	704	715
425:	734	734	842	737	685	629	583	632

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593:	335	293	332	315	303	315	291	309
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625:	241	235	233	233	252	254	243	274
633:	277	255	263	245	248	277	246	264
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649:	296	236	259	226	219	242	264	221
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697:	250	275	227	216	249	325	484	368
705:	253	226	245	256	253	242	228	220
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745:	234	247	223	226	201	206	231	255
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793:	220	209	233	198	215	197	242	234
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2121:	19	11	7	12	8	10	9	9
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2417:	1	1	2	4	3	2	3	2
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2497:	2	3	0	2	2	0	1	1
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2529:	0	1	0	2	1	0	0	1
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3321:	0	0	0	0	0	1	0	0
3329:	0	0	0	0	0	0	0	1
3337:	0	0	0	0	1	0	0	0
3345:	0	0	0	0	0	0	0	0
3353:	0	1	0	0	0	0	0	0
3361:	1	1	0	0	0	0	0	1
3369:	0	0	0	0	1	0	0	0
3377:	0	0	0	0	1	1	1	1
3385:	1	0	0	0	0	0	1	2
3393:	0	0	0	0	0	0	0	0
3401:	0	0	0	0	0	0	0	1
3409:	0	1	0	0	0	0	1	0
3417:	0	0	0	0	0	0	0	0
3425:	0	0	1	0	0	0	0	0
3433:	0	0	0	0	0	0	0	0
3441:	0	0	0	0	0	0	0	0
3449:	0	0	0	0	0	0	0	0
3457:	1	0	0	0	0	0	0	1
3465:	0	0	0	0	1	1	0	0
3473:	0	2	0	0	1	0	1	0
3481:	0	1	0	0	0	1	0	1
3489:	0	0	0	0	0	1	0	0
3497:	0	0	1	0	1	0	0	0
3505:	0	1	0	0	0	0	0	0
3513:	0	0	0	0	0	1	0	0
3521:	0	0	0	0	0	0	0	0
3529:	0	0	0	0	0	0	1	0
3537:	0	0	0	0	0	1	0	0
3545:	0	0	0	0	0	0	0	0
3553:	0	0	1	0	0	0	0	0
3561:	1	0	0	0	0	0	0	0
3569:	1	0	0	0	0	0	0	0
3577:	0	0	1	0	0	1	0	0
3585:	0	0	0	0	0	0	0	0
3593:	0	0	0	0	0	0	0	0
3601:	0	0	0	0	0	0	1	0
3609:	1	0	1	0	0	0	0	0
3617:	0	0	0	0	0	0	0	0
3625:	0	1	0	0	0	0	0	0
3633:	0	0	0	0	0	0	0	0
3641:	0	0	1	0	0	0	0	1
3649:	0	1	0	0	0	0	0	0
3657:	0	1	0	1	0	0	0	2
3665:	0	0	0	1	1	0	0	0
3673:	0	0	0	0	0	1	0	1
3681:	0	0	0	0	0	0	0	0
3689:	0	0	0	0	0	1	0	0
3697:	0	0	0	0	0	1	0	0
3705:	0	0	0	0	0	0	0	0
3713:	0	0	0	0	0	0	0	0
3721:	0	0	1	1	1	0	0	0
3729:	0	0	0	0	0	0	0	0
3737:	0	0	0	0	0	0	0	0
3745:	0	0	0	0	0	0	0	1
3753:	0	0	0	0	0	0	0	0
3761:	0	0	0	0	0	0	0	0
3769:	0	0	0	0	0	0	0	0
3777:	0	0	0	0	0	0	2	0
3785:	0	0	0	0	0	0	0	0

3793:	0	0	0	0	0	0	0	0
3801:	0	0	1	0	0	1	0	0
3809:	0	1	0	0	1	1	0	1
3817:	0	0	0	0	0	0	0	0
3825:	0	0	1	3	0	0	0	0
3833:	0	0	0	0	0	0	0	0
3841:	0	0	0	0	0	0	0	0
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	0	0	0	0	0
3865:	0	0	0	0	1	0	0	0
3873:	0	1	0	0	0	0	0	0
3881:	0	0	0	0	0	0	1	0
3889:	0	0	0	0	0	0	0	0
3897:	0	0	0	0	0	1	0	1
3905:	0	0	0	0	0	1	0	0
3913:	0	0	0	0	0	0	0	0
3921:	0	0	0	0	0	0	0	0
3929:	0	0	0	0	0	0	0	0
3937:	0	1	0	0	0	0	0	0
3945:	0	0	0	0	0	1	0	0
3953:	0	0	0	0	0	0	0	0
3961:	0	1	0	0	0	0	0	0
3969:	0	0	0	0	0	1	1	0
3977:	0	0	0	0	0	0	0	0
3985:	0	0	0	0	0	0	0	0
3993:	0	0	0	0	0	0	0	0
4001:	0	0	0	0	0	0	0	0
4009:	0	1	0	0	0	0	0	0
4017:	0	0	0	0	0	0	0	0
4025:	0	0	0	0	0	0	0	0
4033:	0	0	0	0	0	0	0	0
4041:	0	0	1	0	0	0	0	0
4049:	0	0	0	0	0	0	0	0
4057:	0	0	0	0	0	0	0	0
4065:	0	0	0	3	0	0	0	0
4073:	0	1	0	0	0	0	1	0
4081:	0	0	0	0	0	0	0	0
4089:	0	0	3	0	0	0	0	0

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Sample ID : 1201163-07 Acquisition date : 22-FEB-2012 11:34:55

VAX/VMS Peak Search Report Generated 22-FEB-2012 12:36:26.19

Configuration : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116307_GE3_GAS1102_176248.
Analyses by : PEAK V16.9 ENBACK V1.6 PEAKEFF V2.2
Client ID : JM-77-31-120128
Deposition Date :
Sample Date : 28-JAN-2012 00:00:00 Acquisition date : 22-FEB-2012 11:34:55
Sample ID : 1201163-07 Sample Quantity : 5.54630E+02 gram
Sample type : SOLID Sample Geometry : 0
Detector name : GE3 Detector Geometry: GAS-1102
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:01:16.61 2.1%
Start channel : 5 End channel : 4096
Sensitivity : 2.40000 Gaussian : 15.00000
Critical level : Yes

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	16.74	910	10147	1.51	17.02	14	6	35.8		NB-93M
0	26.34*	342	5233	3.59	26.62	25	4	61.1		
0	31.25	206	5258	1.20	31.53	31	4	100.3		
0	46.48*	4370	9084	1.19	46.76	44	5	7.2		PB-210
0	52.79	1627	13276	1.79	53.07	50	6	22.9		
0	63.25*	8474	18675	1.71	63.53	61	6	5.5		TH-234
0	75.61	22711	48582	3.58	75.89	71	13	4.2		AM-243
1	87.79	3867	11560	1.38	88.07	86	12	8.4	3.46E+02	NP-237 SN-126 CD-109
1	92.84*	12402	9656	1.39	93.13	86	12	2.9		
0	98.49	909	7375	1.45	98.77	98	4	27.7		
8	109.73	696	5063	1.76	110.02	108	9	27.8	8.15E+00	
8	112.78*	1121	10297	1.93	113.07	108	9	29.5		
0	143.82	1604	9995	1.34	144.11	141	6	20.3		U-235
0	154.30	781	9903	1.93	154.59	153	6	41.0		
0	163.12	500	7611	1.62	163.41	162	5	53.2		U-235
0	186.08*	12556	12175	1.76	186.37	182	9	3.6		RA-226
0	204.86	241	5816	1.05	205.15	204	5	96.2		U-235
2	235.96	798	3761	1.40	236.25	233	14	22.4	1.02E+02	NB-95M
2	239.01*	1047	4541	1.75	239.30	233	14	20.4		PB-212
2	242.00	8596	4266	1.64	242.29	233	14	3.1		RA-224
0	257.80	1130	6593	4.06	258.09	254	9	26.6		
7	270.28	1585	6107	2.84	270.57	265	13	18.5	7.42E+00	
7	274.60	404	3301	1.50	274.90	265	13	44.2		
0	295.30*	17607	4641	1.79	295.59	292	7	2.0		PB-214
0	315.53	160	2535	3.00	315.83	314	5	95.6		
0	323.27	273	3427	1.59	323.57	321	7	72.1		RA-223
0	329.49	207	2471	1.15	329.79	328	5	73.3		
0	338.04*	169	2487	1.73	338.34	337	5	89.9		AC-228
8	349.76	290	1857	2.01	350.06	348	11	52.6	2.35E+01	
8	352.00*	30399	1787	1.46	352.30	348	11	1.2		PB-214
0	387.83	418	3548	1.65	388.13	384	9	52.2		
1	401.85	331	1940	1.61	402.15	398	11	41.6	1.76E+00	RN-219
1	405.45	282	2376	1.91	405.75	398	11	56.3		
0	427.37	163	2534	1.78	427.68	425	7	103.8		

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Post-NID Peak Search Report (continued) Page : 2
Sample ID : 1201163-07 Acquisition date : 22-FEB-2012 11:34:55

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	454.51	170	1416	1.73	454.81	453	5	68.1		
0	462.14	182	1862	2.05	462.44	459	7	80.1		
0	469.77	92	1243	2.08	470.08	468	5	116.6		
0	479.96	252	1763	1.22	480.27	477	7	56.7		
0	487.25*	218	1403	1.86	487.56	485	6	56.3		
0	510.67*	379	1906	2.98	510.98	507	9	43.2		
0	582.21	428	1994	4.45	582.52	577	11	41.6		TL-208
0	590.98	95	1027	1.21	591.29	589	6	108.6		
0	609.41*	21257	1976	1.76	609.72	605	10	1.6		BI-214
0	656.41	97	848	3.49	656.73	654	7	101.6		
6	661.90	108	602	1.78	662.22	660	11	71.4	1.45E+00	CS-137
6	665.56	683	614	1.71	665.88	660	11	13.3		
0	702.81	270	1250	2.03	703.13	698	10	50.5		
0	719.83	94	877	1.38	720.15	717	7	106.8		
0	743.04	227	1129	2.47	743.37	739	9	55.1		
0	768.16*	2117	1263	1.99	768.48	763	11	7.8		
0	786.06	566	1086	1.84	786.39	782	10	23.4		
0	806.30	336	1018	2.00	806.63	803	8	34.7		
0	829.69	125	1171	7.42	830.02	825	10	103.9		
0	839.06	206	988	1.72	839.39	836	8	54.9		
0	911.48*	112	934	1.99	911.82	908	8	96.6		AC-228
0	933.88	1123	1207	2.05	934.21	928	12	13.7		
0	969.09*	130	633	2.47	969.43	967	7	66.7		AC-228
0	1001.13*	463	759	2.04	1001.47	997	8	22.7		PA-234M
0	1051.92	74	556	1.84	1052.27	1050	7	108.5		
0	1104.36	79	495	3.90	1104.71	1102	7	96.3		
4	1120.33	4283	414	1.88	1120.67	1114	15	3.4	2.41E+00	BI-214
4	1124.72	93	489	2.94	1125.07	1114	15	95.2		
0	1133.88	73	566	2.00	1134.22	1131	8	115.9		
0	1155.30	477	722	2.05	1155.65	1151	10	23.0		
0	1179.99*	88	586	4.91	1180.34	1178	9	100.9		
0	1207.85	116	365	2.15	1208.20	1205	6	55.3		
0	1218.83	44	276	1.33	1219.18	1218	5	117.1		
0	1229.80	75	374	4.14	1230.16	1227	7	88.7		
0	1238.16*	1558	617	2.21	1238.52	1234	11	8.0		
0	1255.34	140	611	3.03	1255.69	1249	12	72.7		
0	1281.28	400	640	2.10	1281.64	1277	11	26.5		
0	1344.53	47	231	1.83	1344.89	1343	5	103.4		
0	1377.74	1128	401	2.08	1378.10	1374	8	8.6		
0	1385.47	259	401	2.22	1385.83	1383	9	30.4		
3	1401.52	390	331	2.27	1401.88	1397	20	18.5	1.03E+00	
3	1408.02	601	298	2.14	1408.38	1397	20	12.2		
0	1424.65	75	381	2.99	1425.02	1422	8	93.1		
0	1460.75*	685	556	2.27	1461.11	1455	13	16.1		K-40
0	1499.72	48	239	1.09	1500.09	1498	5	100.9		
0	1509.26	539	462	2.31	1509.63	1505	10	17.2		
0	1525.35	37	223	2.15	1525.72	1524	5	124.8		
0	1537.17	137	572	6.46	1537.54	1530	12	71.9		
0	1543.58	118	325	2.40	1543.95	1542	8	56.4		
0	1561.90	45	224	2.68	1562.27	1560	7	114.6		
0	1582.95	127	294	2.38	1583.32	1580	8	49.7		

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	1599.74	48	243	1.62	1600.11	1597	7	112.1		
0	1661.45	227	190	2.52	1661.83	1658	8	25.0		
0	1683.47	56	144	5.32	1683.85	1679	9	82.6		
0	1692.80	101	148	8.19	1693.18	1688	11	50.8		
0	1729.70	760	147	2.38	1730.08	1724	11	9.5		
0	1764.61*	3406	179	2.32	1764.99	1760	12	3.8		BI-214
0	1838.40	80	114	1.69	1838.79	1834	9	53.3		
0	1847.38	496	117	2.31	1847.77	1843	11	12.3		
0	1873.87	73	101	1.37	1874.26	1869	9	54.8		
2	1890.30	34	100	2.56	1890.69	1886	16	105.5	6.98E-01	
2	1896.09	30	96	2.70	1896.49	1886	16	118.9		
0	2012.12	16	39	2.45	2012.52	2010	5	126.9		
0	2055.83	37	76	7.21	2056.24	2048	15	110.3		
0	2118.55	229	48	2.91	2118.96	2114	10	17.3		
0	2204.26	896	65	2.43	2204.67	2198	14	7.7		BI-214
0	2293.57	60	22	2.22	2293.98	2288	13	41.9		
0	2351.71	10	9	1.18	2352.13	2345	12	132.8		
0	2436.57	8	0	2.15	2437.00	2435	6	70.7		
0	2447.58	245	7	2.43	2448.01	2442	13	13.5		
0	2580.92	5	2	1.25	2581.35	2577	7	133.8		
0	2614.90*	71	5	2.55	2615.34	2611	10	27.2		TL-208
0	2770.39	6	0	1.98	2770.83	2767	7	81.6		

Sample ID : 1201163-07 Acquisition date : 22-FEB-2012 11:34:55

Total number of lines in spectrum	107	
Number of unidentified lines	59	
Number of lines tentatively identified by NID	48	44.86%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.332E+01	2.332E+01	0.444E+01	19.04	
TL-208	1.41E+10Y	1.00	1.148E+00	1.148E+00	0.294E+00	25.61	
PB-210	22.26Y	1.00	5.853E+01	5.866E+01	0.667E+01	11.37	
PB-212	1.41E+10Y	1.00	1.803E+00	1.803E+00	0.685E+00	37.96	
BI-214	1602.00Y	1.00	8.378E+01	8.378E+01	0.474E+01	5.65	
PB-214	1602.00Y	1.00	8.456E+01	8.456E+01	1.972E+01	23.32	
RN-219	3.28E+04Y	1.00	5.952E+00	5.952E+00	2.564E+00	43.07	
RA-223	3.28E+04Y	1.00	6.856E+00	6.856E+00	5.548E+00	80.92	
RA-224	1.41E+10Y	1.00	1.684E+02	1.684E+02	0.557E+02	33.07	
RA-226	1602.00Y	1.00	2.498E+02	2.498E+02	4.586E+02	183.57	
AC-228	1.41E+10Y	1.00	1.372E+00	1.372E+00	0.691E+00	50.35	
PA-234M	4.47E+09Y	1.00	1.341E+02	1.341E+02	0.341E+02	25.44	
TH-234	4.47E+09Y	1.00	1.131E+02	1.131E+02	0.114E+02	10.11	
U-235	7.04E+08Y	1.00	6.952E+00	6.952E+00	1.740E+00	25.03	
			---------	---------			
	Total Activity :		9.398E+02	9.399E+02			

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
NB-93M	14.60Y	1.00	1.880E+01	1.886E+01	0.846E+01	44.85	
CD-109	464.00D	1.04	5.169E+01	5.370E+01	0.809E+01	15.07	
SN-126	1.00E+05Y	1.00	5.195E+00	5.195E+00	0.717E+00	13.81	
CS-137	30.17Y	1.00	2.330E-01	2.333E-01	1.682E-01	72.10	
NP-237	2.14E+06Y	1.00	1.524E+01	1.524E+01	0.209E+01	13.71	
			---------	---------			
	Total Activity :		9.116E+01	9.323E+01			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
NB-95M	3.61D	134.	2.431E+00	3.254E+02	1.244E+02	38.22	
AM-243	7380.00Y	1.00	1.707E+01	1.707E+01	0.178E+01	10.41	
			---------	---------			
	Total Activity :		1.950E+01	3.425E+02			

Grand Total Activity : 1.050E+03 1.376E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : 1201163-07   Acquisition date : 22-FEB-2012 11:34:55

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
K-40	1460.81	10.67*	3.724E-01	2.332E+01	2.332E+01	19.04	OK
	Final Mean for 1 Valid Peaks = 2.332E+01+/- 4.440E+00 (19.04%)						
TL-208	583.14	30.22*	8.285E-01	2.312E+00	2.312E+00	43.07	OK
	860.37	4.48	5.812E-01	-----	Line Not Found	-----	Absent
	2614.66	35.85	2.572E-01	1.037E+00	1.037E+00	29.68	OK
	Final Mean for 2 Valid Peaks = 1.148E+00+/- 2.941E-01 (25.61%)						
PB-210	46.50	4.25*	2.378E+00	5.853E+01	5.866E+01	11.37	OK
	Final Mean for 1 Valid Peaks = 5.866E+01+/- 6.672E+00 (11.37%)						
PB-212	238.63	44.60*	1.761E+00	1.803E+00	1.803E+00	37.96	OK
	300.09	3.41	1.480E+00	-----	Line Not Found	-----	Absent
	Final Mean for 1 Valid Peaks = 1.803E+00+/- 6.845E-01 (37.96%)						
BI-214	609.31	46.30*	7.958E-01	7.809E+01	7.809E+01	10.88	OK
	1120.29	15.10	4.615E-01	8.319E+01	8.320E+01	10.76	OK
	1764.49	15.80	3.245E-01	8.992E+01	8.992E+01	10.69	OK
	2204.22	4.98	2.817E-01	8.642E+01	8.642E+01	13.42	OK
	Final Mean for 4 Valid Peaks = 8.378E+01+/- 4.735E+00 (5.65%)						
PB-214	295.21	19.19	1.499E+00	8.283E+01	8.283E+01	45.02	OK
	351.92	37.19*	1.298E+00	8.523E+01	8.523E+01	27.25	OK
	Final Mean for 2 Valid Peaks = 8.456E+01+/- 1.972E+01 (23.32%)						
RN-219	401.80	6.50*	1.158E+00	5.952E+00	5.952E+00	43.07	OK
	Final Mean for 1 Valid Peaks = 5.952E+00+/- 2.564E+00 (43.07%)						
RA-223	323.87	3.88*	1.391E+00	6.856E+00	6.856E+00	80.92	OK
	Final Mean for 1 Valid Peaks = 6.856E+00+/- 5.548E+00 (80.92%)						
RA-224	240.98	3.95*	1.749E+00	1.684E+02	1.684E+02	33.07	OK
	Final Mean for 1 Valid Peaks = 1.684E+02+/- 5.570E+01 (33.07%)						
RA-226	186.21	3.28*	2.074E+00	2.498E+02	2.498E+02	183.57	OK
	Final Mean for 1 Valid Peaks = 2.498E+02+/- 4.586E+02 (183.57%)						
AC-228	338.32	11.40	1.342E+00	1.493E+00	1.493E+00	95.41	OK
	911.07	27.70*	5.523E-01	9.922E-01	9.922E-01	97.33	OK

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
	969.11	16.60	5.230E-01	2.028E+00	2.028E+00	67.73	OK

Final Mean for 3 Valid Peaks = 1.372E+00+/- 6.909E-01 (50.35%)

PA-234M	1001.03	0.92*	5.083E-01	1.341E+02	1.341E+02	25.44	OK

Final Mean for 1 Valid Peaks = 1.341E+02+/- 3.411E+01 (25.44%)

TH-234	63.29	3.80*	2.668E+00	1.131E+02	1.131E+02	10.11	OK

Final Mean for 1 Valid Peaks = 1.131E+02+/- 1.143E+01 (10.11%)

U-235	143.76	10.50*	2.377E+00	8.699E+00	8.699E+00	27.40	OK
	163.35	4.70	2.233E+00	6.449E+00	6.449E+00	56.71	OK
	205.31	4.70	1.952E+00	3.554E+00	3.554E+00	99.80	OK

Final Mean for 3 Valid Peaks = 6.952E+00+/- 1.740E+00 (25.03%)

Nuclide Type: FISSION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
NB-93M	16.57	9.43*	6.948E-01	1.880E+01	1.886E+01	44.85	OK

Final Mean for 1 Valid Peaks = 1.886E+01+/- 8.460E+00 (44.85%)

CD-109	88.03	3.72*	2.722E+00	5.169E+01	5.370E+01	15.07	OK

Final Mean for 1 Valid Peaks = 5.370E+01+/- 8.090E+00 (15.07%)

SN-126	87.57	37.00*	2.723E+00	5.195E+00	5.195E+00	13.81	OK

Final Mean for 1 Valid Peaks = 5.195E+00+/- 7.175E-01 (13.81%)

CS-137	661.65	85.12*	7.379E-01	2.330E-01	2.333E-01	72.10	OK

Final Mean for 1 Valid Peaks = 2.333E-01+/- 1.682E-01 (72.10%)

NP-237	86.50	12.60*	2.726E+00	1.524E+01	1.524E+01	13.71	OK

Final Mean for 1 Valid Peaks = 1.524E+01+/- 2.089E+00 (13.71%)

Sample ID : 1201163-07 Acquisition date : 22-FEB-2012 11:34:55

Nuclide Type: ACTIVATION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
NB-95M	235.69	25.00*	1.777E+00	2.431E+00	3.254E+02	38.22	OK

Final Mean for 1 Valid Peaks = 3.254E+02+/- 1.244E+02 (38.22%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
AM-243	74.67	66.00*	2.729E+00	1.707E+01	1.707E+01	10.41	OK

Final Mean for 1 Valid Peaks = 1.707E+01+/- 1.777E+00 (10.41%)

Flag: "*" = Keyline

Sample ID : 1201163-07 Acquisition date : 22-FEB-2012 11:34:55

---- Identified Nuclides ----

Nuclide	Activity (pCi/gram)	Act error	MDA (pCi/gram)	MDA error	Act/MDA
K-40	2.332E+01	4.440E+00	2.795E+00	2.589E-01	8.346
NB-93M	1.886E+01	8.460E+00	7.069E+00	1.894E+00	2.668
NB-95M	3.254E+02	1.244E+02	1.168E+02	3.584E+01	2.785
CD-109	5.370E+01	8.090E+00	7.593E+00	9.005E-01	7.072
SN-126	5.195E+00	7.175E-01	7.343E-01	7.504E-02	7.074
CS-137	2.333E-01	1.682E-01	2.513E-01	2.351E-02	0.928
TL-208	1.148E+00	2.941E-01	7.903E-01	8.095E-02	1.453
PB-210	5.866E+01	6.672E+00	5.385E+00	4.216E-01	10.892
PB-212	1.803E+00	6.845E-01	4.940E-01	1.570E-01	3.650
BI-214	8.378E+01	4.735E+00	5.285E-01	5.282E-02	158.525
PB-214	8.456E+01	1.972E+01	5.961E-01	1.606E-01	141.847
RN-219	5.952E+00	2.564E+00	3.725E+00	3.914E-01	1.598
RA-223	6.856E+00	5.548E+00	5.653E+00	2.068E+00	1.213
RA-224	1.684E+02	5.570E+01	5.622E+00	1.837E+00	29.960
RA-226	2.498E+02	4.586E+02	6.995E+00	1.283E+01	35.720
AC-228	1.372E+00	6.909E-01	1.107E+00	1.278E-01	1.239
PA-234M	1.341E+02	3.411E+01	3.220E+01	3.482E+00	4.163
TH-234	1.131E+02	1.143E+01	6.777E+00	5.041E-01	16.692
U-235	6.952E+00	1.740E+00	2.092E+00	3.747E-01	3.324
NP-237	1.524E+01	2.089E+00	2.349E+00	2.368E-01	6.489
AM-243	1.707E+01	1.777E+00	4.170E-01	3.605E-02	40.934

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
BE-7	1.800E+00		2.112E+00	3.128E+00	3.348E-01	0.576
NA-22	1.364E-01		1.971E-01	3.052E-01	2.673E-02	0.447
AL-26	-1.270E-02		1.090E-01	1.826E-01	1.669E-02	-0.070
TI-44	1.656E-01		1.995E-01	2.788E-01	2.203E-02	0.594
SC-46	-7.995E-02		2.218E-01	3.739E-01	4.319E-02	-0.214
V-48	-3.533E-01		5.152E-01	8.543E-01	9.379E-02	-0.414
CR-51	6.124E-01		3.217E+00	4.191E+00	1.587E+00	0.146
MN-54	7.691E-02		2.458E-01	3.047E-01	3.371E-02	0.252
CO-56	-3.643E-02		2.323E-01	3.543E-01	3.959E-02	-0.103
CO-57	8.265E-02		1.518E-01	2.535E-01	2.519E-02	0.326
CO-58	-5.955E-02		2.268E-01	3.456E-01	3.752E-02	-0.172
FE-59	-3.950E-01		5.165E-01	7.515E-01	7.740E-02	-0.526
CO-60	7.769E-02		2.016E-01	3.087E-01	2.650E-02	0.252
ZN-65	6.564E-01		4.456E-01	7.035E-01	6.653E-02	0.933
GA-67	3.932E+03	+	1.380E+04	2.190E+02	7.686E+02	17.955
SE-75	-3.036E-01		3.493E-01	4.174E-01	1.765E-01	-0.727
RB-82	2.885E+00		3.126E+00	4.018E+00	4.224E-01	0.718
RB-83	-1.563E-01		3.625E-01	5.987E-01	1.007E-01	-0.261
KR-85	4.384E+01		3.381E+01	5.441E+01	5.789E+00	0.806
SR-85	2.506E-01		1.933E-01	3.110E-01	3.309E-02	0.806
Y-88	3.487E-01		1.861E-01	3.148E-01	2.871E-02	1.108
NB-94	2.625E-02		1.676E-01	2.871E-01	3.271E-02	0.091

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
NB-95	4.209E+00		5.842E-01	7.114E-01	7.406E-02	5.917
ZR-95	-3.707E-02		3.648E-01	5.979E-01	6.612E-02	-0.062
RU-103	-9.532E-02		2.471E-01	3.860E-01	5.984E-02	-0.247
RU-106	-3.812E-01		1.379E+00	2.377E+00	3.373E-01	-0.160
AG-108M	-1.131E-01		1.848E-01	2.800E-01	2.795E-02	-0.404
AG-110M	2.039E-01	+	2.082E-01	2.683E-01	2.520E-02	0.760
SN-113	-7.127E-02		2.905E-01	4.237E-01	4.523E-02	-0.168
TE123M	-5.028E-02		2.310E-01	3.097E-01	2.796E-02	-0.162
SB-124	-1.100E-01		2.184E-01	3.362E-01	3.383E-02	-0.327
I-125	6.939E-01		2.870E+00	4.606E+00	4.351E-01	0.151
SB-125	6.989E-01	+	7.302E-01	8.794E-01	9.461E-02	0.795
SB-126	1.437E+00	+	1.542E+00	2.028E+00	2.019E-01	0.708
SB-127	1.004E+01		3.881E+01	6.745E+01	6.467E+00	0.149
I-129	2.946E-01	+	2.976E-01	4.423E-01	4.951E-02	0.666
I-131	4.636E-01		1.484E+00	2.384E+00	5.265E-01	0.194
TE-132	2.945E+01		3.880E+01	5.766E+01	1.609E+01	0.511
BA-133	1.008E+00		3.767E-01	4.053E-01	1.106E-01	2.487
CS-134	2.698E-02		1.700E-01	2.666E-01	2.682E-02	0.101
CS-135	4.502E+00		2.171E+00	1.530E+00	6.704E-01	2.943
CS-136	5.987E-01		9.225E-01	1.432E+00	1.507E-01	0.418
LA-138	-1.847E-01		2.835E-01	4.592E-01	4.132E-02	-0.402
CE-139	9.928E-02		2.079E-01	3.182E-01	2.811E-02	0.312
BA-140	-1.244E-01		2.145E+00	3.734E+00	1.258E+00	-0.033
LA-140	3.548E-01		9.108E-01	1.371E+00	1.255E-01	0.259
CE-141	2.071E+00		7.243E-01	8.502E-01	1.977E-01	2.436
CE-144	-1.391E+00		1.266E+00	2.068E+00	1.999E-01	-0.672
PM-144	-1.565E-02		1.592E-01	2.467E-01	2.397E-02	-0.063
PM-145	-9.912E-02		6.311E-01	1.002E+00	6.531E-01	-0.099
PM-146	5.601E-01	+	3.866E-01	6.154E-01	6.577E-02	0.910
ND-147	-1.788E+00		5.064E+00	8.770E+00	9.276E-01	-0.204
EU-152	1.427E+01	+	2.427E+00	3.420E+00	3.824E-01	4.174
GD-153	-6.892E-03		6.072E-01	9.421E-01	9.478E-02	-0.007
EU-154	3.789E-01		5.477E-01	8.481E-01	7.427E-02	0.447
EU-155	6.275E+00	+	8.603E-01	9.514E-01	9.590E-02	6.596
EU-156	-2.103E+00		5.441E+00	8.223E+00	1.955E+00	-0.256
HO-166M	-1.484E-01		3.709E-01	4.486E-01	4.425E-02	-0.331
HF-172	-8.257E-01		1.125E+00	1.853E+00	1.824E-01	-0.446
LU-172	1.537E+00		3.804E+00	6.512E+00	6.345E-01	0.236
LU-173	4.073E+00		1.991E+00	1.230E+00	5.596E-01	3.312
HF-175	2.300E-02		2.751E-01	3.565E-01	1.071E-01	0.065
LU-176	-3.490E-02		1.444E-01	2.307E-01	9.613E-02	-0.151
TA-182	4.204E+01	+	4.516E+00	3.159E+00	2.959E-01	13.307
IR-192	2.334E-01		4.693E-01	6.064E-01	6.489E-02	0.385
HG-203	-1.565E-01		2.915E-01	4.155E-01	2.025E-01	-0.377
BI-207	4.824E-02		1.400E-01	2.451E-01	2.536E-02	0.197
BI-210M	4.651E-01		4.105E-01	4.896E-01	2.015E-01	0.950
PB-211	1.142E+01	+	6.554E+00	9.046E+00	9.521E-01	1.263
BI-212	1.173E+00		1.373E+00	2.179E+00	2.183E-01	0.538

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
RA-225	-5.821E-01		1.406E+00	2.232E+00	1.920E-01	-0.261
TH-227	5.289E+00	+	2.026E+00	2.169E+00	6.679E-01	2.438
TH-230	3.443E+01		5.077E+01	7.094E+01	5.590E+00	0.485
PA-231	-3.750E+00		6.350E+00	9.809E+00	4.199E+00	-0.382
TH-231	2.257E+00	+	1.415E+00	2.122E+00	2.834E-01	1.064
PA-233	-7.457E-02		7.275E-01	1.077E+00	4.868E-01	-0.069
PA-234	4.541E-01		6.197E-01	1.033E+00	1.004E-01	0.440
AM-241	1.791E+00		4.476E-01	6.897E-01	4.884E-02	2.597
CM-243	-2.308E-01		1.065E+00	1.574E+00	7.552E-01	-0.147

Summary of Nuclide Activity
Sample ID : 1201163-07 Acquisition date : 22-FEB-2012 11:34:55

Total number of lines in spectrum	107	
Number of unidentified lines	59	
Number of lines tentatively identified by NID	48	44.86%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.332E+01	2.332E+01	0.444E+01	19.04	
TL-208	1.41E+10Y	1.00	1.148E+00	1.148E+00	0.294E+00	25.61	
PB-210	22.26Y	1.00	5.853E+01	5.866E+01	0.667E+01	11.37	
PB-212	1.41E+10Y	1.00	1.803E+00	1.803E+00	0.685E+00	37.96	
BI-214	1602.00Y	1.00	8.378E+01	8.378E+01	0.474E+01	5.65	
PB-214	1602.00Y	1.00	8.456E+01	8.456E+01	1.972E+01	23.32	
RN-219	3.28E+04Y	1.00	5.952E+00	5.952E+00	2.564E+00	43.07	
RA-223	3.28E+04Y	1.00	6.856E+00	6.856E+00	5.548E+00	80.92	
RA-224	1.41E+10Y	1.00	1.684E+02	1.684E+02	0.557E+02	33.07	
RA-226	1602.00Y	1.00	2.498E+02	2.498E+02	4.586E+02	183.57	
AC-228	1.41E+10Y	1.00	1.372E+00	1.372E+00	0.691E+00	50.35	
PA-234M	4.47E+09Y	1.00	1.341E+02	1.341E+02	0.341E+02	25.44	
TH-234	4.47E+09Y	1.00	1.131E+02	1.131E+02	0.114E+02	10.11	
U-235	7.04E+08Y	1.00	6.952E+00	6.952E+00	1.740E+00	25.03	
			---------	---------			
	Total Activity :		9.398E+02	9.399E+02			

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
NB-93M	14.60Y	1.00	1.880E+01	1.886E+01	0.846E+01	44.85	
CD-109	464.00D	1.04	5.169E+01	5.370E+01	0.809E+01	15.07	
SN-126	1.00E+05Y	1.00	5.195E+00	5.195E+00	0.717E+00	13.81	
CS-137	30.17Y	1.00	2.330E-01	2.333E-01	1.682E-01	72.10	
NP-237	2.14E+06Y	1.00	1.524E+01	1.524E+01	0.209E+01	13.71	
			---------	---------			
	Total Activity :		9.116E+01	9.323E+01			

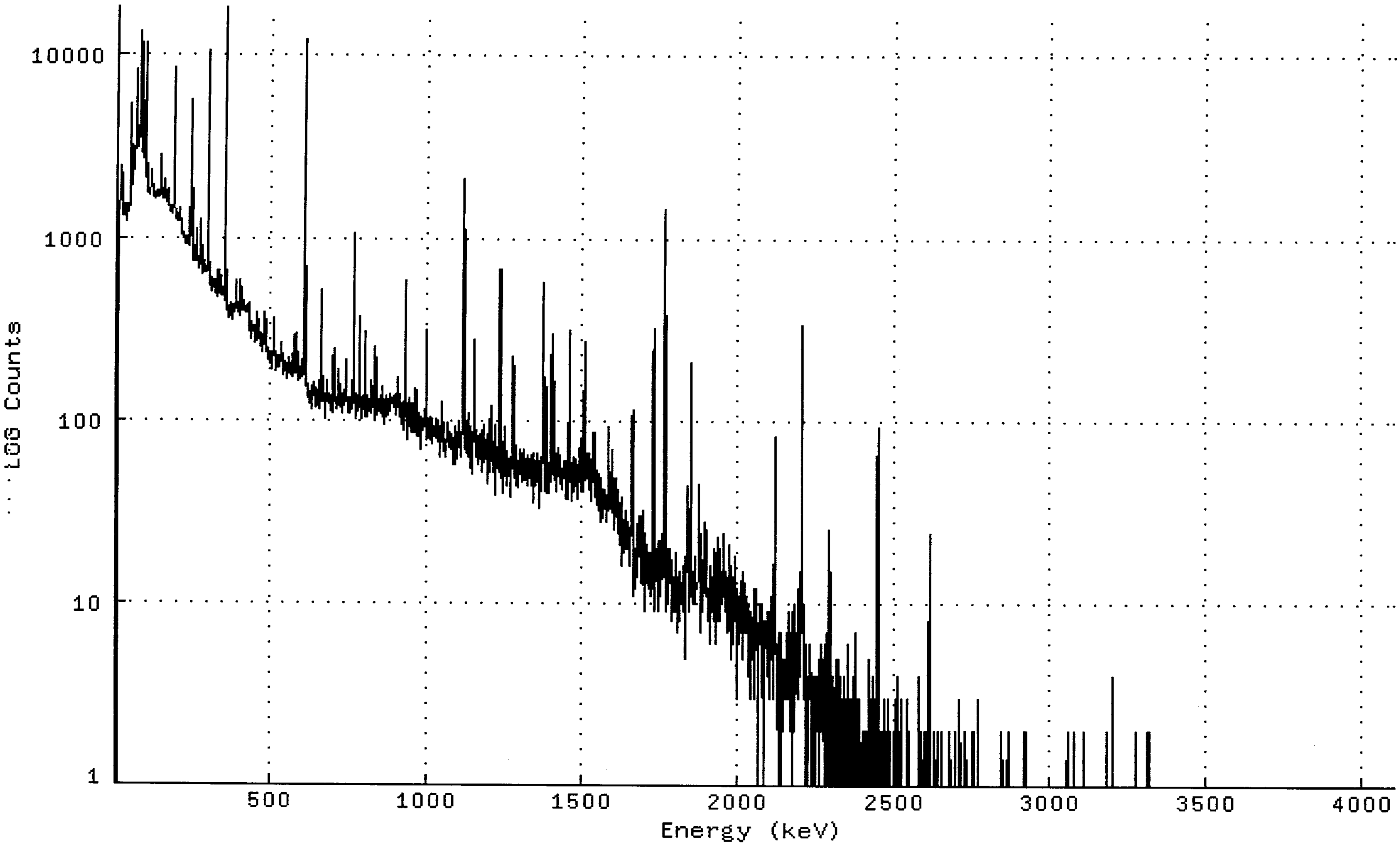
Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
NB-95M	3.61D	134.	2.431E+00	3.254E+02	1.244E+02	38.22	
AM-243	7380.00Y	1.00	1.707E+01	1.707E+01	0.178E+01	10.41	
			---------	---------			
	Total Activity :		1.950E+01	3.425E+02			

Grand Total Activity :	1.050E+03	1.376E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Spectrum : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116307_GE3_GAS1102_176248.CNF;1
Title :
Sample Title: JM-77-31-120128
Start Time: 22-FEB-2012 11:34 Sample Time: 28-JAN-2012 00:00 Energy Offset: -2.78447E-01
Real Time : 0 01:01:16.61 Sample ID : 1201163-07 Energy Slope : 9.99940E-01
Live Time : 0 01:00:00.00 Sample Type: SOLID Energy Quad : 0.00000E+00



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Channel Contents for DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116307_GE3_GAS1102_1762

Channel

1:	0	0	0	0	0	0	0	0
9:	212	1458	1604	1625	2074	1586	1744	2436
17:	2054	1566	1671	1516	1282	1359	1298	1312
25:	1351	1488	1380	1386	1203	1259	1325	1508
33:	1360	1271	1384	1404	1442	1359	1390	1495
41:	1462	1595	1689	1772	1783	2782	5283	1889
49:	1889	2286	2238	2111	2946	3050	2272	2346
57:	2391	2647	2773	3027	3101	3264	6483	8169
65:	3121	3060	3262	3952	3275	3336	3478	3440
73:	3540	4231	10733	5594	13167	10220	3339	3709
81:	3648	3313	2881	5122	3555	2634	5122	5446
89:	2765	4019	2821	4643	11293	3860	3079	2195
97:	1882	2249	2460	1829	1746	1710	1791	1669
105:	1763	1785	1669	1677	1921	1890	1943	1944
113:	2300	1982	1803	1743	1744	1669	1665	1633
121:	1727	1659	1730	1616	1627	1652	1712	1658
129:	1666	1750	1714	1711	1637	1626	1693	1671
137:	1747	1700	1739	1668	1682	1680	1767	2779
145:	2081	1610	1708	1659	1691	1785	1758	1692
153:	1703	2001	2046	1690	1613	1631	1607	1533
161:	1562	1595	1734	1829	1463	1490	1483	1457
169:	1509	1453	1450	1469	1375	1348	1396	1410
177:	1462	1311	1362	1425	1466	1406	1461	1424
185:	2029	8367	5943	1443	1360	1340	1224	1297
193:	1248	1244	1297	1318	1268	1217	1244	1202
201:	1221	1217	1249	1225	1239	1423	1098	1072
209:	1162	1091	1125	1046	972	1002	998	1014
217:	1040	968	967	975	988	973	994	898
225:	905	994	969	928	934	973	896	945
233:	991	887	975	1410	1209	995	1437	995
241:	1183	5501	4002	828	823	839	757	849
249:	724	801	780	754	771	732	816	952
257:	961	778	1102	892	737	753	682	719
265:	679	662	736	680	861	1237	1017	1000
273:	704	799	885	735	623	685	645	653
281:	655	686	632	724	644	702	670	644
289:	648	631	673	643	697	886	7759	10459
297:	1163	649	687	718	716	539	621	565
305:	588	531	554	537	509	510	503	525
313:	528	532	569	553	553	488	496	500
321:	490	540	518	644	565	483	460	511
329:	501	648	527	491	509	541	533	470
337:	479	577	608	493	503	522	516	497
345:	508	480	486	447	551	566	2477	18353
353:	10540	757	542	522	438	439	402	389
361:	380	397	411	397	379	357	378	363
369:	375	427	380	396	398	389	419	349
377:	387	382	413	383	424	399	391	399
385:	404	436	480	433	568	483	381	382
393:	405	380	396	436	388	367	426	375
401:	451	577	498	402	511	526	426	407
409:	396	405	411	390	396	429	440	396
417:	412	408	383	384	412	380	407	387
425:	383	388	420	436	350	377	343	348

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449:	259	295	307	296	283	337	385	313
457:	268	290	291	278	289	346	302	291
465:	247	249	264	253	269	295	288	230
473:	254	250	283	241	256	277	286	283
481:	385	269	259	250	256	230	347	331
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577:	184	194	179	245	287	214	274	296
585:	185	177	187	161	179	181	190	230
593:	170	172	172	166	179	193	185	202
601:	171	172	175	209	184	175	177	708
609:	7401	11892	2028	226	232	220	177	163
617:	168	156	140	132	144	137	134	154
625:	123	131	123	142	129	136	148	131
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929:	108	104	112	126	191	578	506	179
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969:	144	124	94	108	81	94	82	99
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1153:	80	106	275	246	110	76	87	66
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1185:	65	68	80	58	61	63	67	67
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1273:	50	55	62	68	54	63	68	112
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1409:	261	104	57	61	63	56	52	47
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1489:	37	55	51	54	47	60	70	45
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1889:	13	24	28	17	13	12	13	25
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1953:	18	24	11	14	9	14	14	13
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1969:	21	10	14	10	14	8	6	7
1977:	16	6	5	8	11	13	6	10
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1993:	11	12	11	8	3	5	10	11
2001:	8	11	6	11	7	7	11	9
2009:	10	8	13	14	15	5	9	9
2017:	12	12	13	8	12	7	12	7
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2041:	8	9	8	5	7	8	5	8
2049:	3	9	8	9	11	12	7	6
2057:	6	12	10	6	5	1	7	6
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2081:	6	5	5	8	4	8	6	7
2089:	6	8	8	6	5	9	4	8
2097:	5	9	6	4	3	7	6	11
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2113:	6	3	5	10	28	54	81	68
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2145:	4	5	4	5	3	3	4	3
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2209:	10	7	3	4	3	5	5	3
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2225:	2	3	4	4	3	4	3	6
2233:	3	3	4	1	3	1	1	4
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2257:	2	3	4	1	0	5	4	2
2265:	2	6	4	3	3	5	5	4
2273:	2	5	3	1	1	6	4	6
2281:	5	3	1	7	3	1	2	2
2289:	3	3	1	8	20	25	9	3
2297:	1	1	3	3	0	1	4	2
2305:	0	4	3	3	1	2	2	1
2313:	4	3	3	5	2	1	4	4
2321:	2	2	1	5	2	3	2	2
2329:	0	4	2	3	3	2	1	3
2337:	2	3	0	4	0	2	4	2
2345:	0	1	0	3	1	6	2	2

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2369:	3	3	2	2	4	1	7	0
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2385:	3	3	1	1	1	3	0	3
2393:	0	1	0	0	1	1	2	0
2401:	2	1	2	2	2	0	0	2
2409:	2	0	2	2	1	1	0	1
2417:	1	2	0	0	1	5	0	1
2425:	0	3	1	1	0	1	1	4
2433:	1	0	0	3	3	1	1	0
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2449:	72	17	2	1	1	1	1	2
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2465:	1	3	2	1	1	1	1	0
2473:	1	1	1	2	0	0	1	0
2481:	0	0	3	0	1	1	0	0
2489:	2	1	1	1	1	0	1	0
2497:	0	0	0	2	0	0	0	0
2505:	1	3	0	1	0	1	0	0
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2521:	2	1	3	0	0	2	0	1
2529:	0	1	1	1	1	1	0	0
2537:	0	1	0	1	0	3	0	0
2545:	0	1	2	1	1	1	0	1
2553:	0	0	0	1	0	0	1	0
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2569:	0	1	0	0	0	1	0	0
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2585:	0	0	0	2	0	0	0	0
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2601:	0	1	2	0	1	2	1	0
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2617:	9	2	1	0	1	0	0	0
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2633:	0	0	0	0	0	0	0	1
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2657:	1	1	0	1	0	0	0	0
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2673:	0	0	0	0	0	0	0	2
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2697:	1	2	0	1	1	0	0	0
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2713:	1	0	0	0	0	1	0	1
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2753:	2	1	1	0	1	0	2	0
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2777:	0	1	0	0	0	0	1	1
2785:	0	0	0	0	0	0	0	0
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2873:	0	0	0	0	0	1	0	0
2881:	1	0	0	1	0	1	0	0
2889:	1	0	1	0	0	0	1	0
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2905:	0	0	1	1	0	1	0	1
2913:	0	0	0	0	0	0	2	1
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2945:	0	1	0	0	1	0	0	0
2953:	0	0	1	0	0	0	0	0
2961:	0	0	0	0	0	0	0	0
2969:	1	0	0	0	0	1	0	0
2977:	0	0	1	1	0	0	0	0
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3057:	1	0	0	0	0	1	0	1
3065:	1	0	0	0	0	1	0	0
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3081:	0	0	0	1	1	0	0	0
3089:	0	0	0	0	0	1	0	0
3097:	0	0	0	0	1	0	0	0
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3217:	0	0	1	0	0	0	0	1
3225:	0	0	0	0	0	1	1	1
3233:	1	0	0	1	0	0	0	0
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3281:	0	0	0	0	0	0	0	0
3289:	0	0	1	0	0	0	1	0
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3513:	0	0	0	0	0	0	1	0
3521:	0	0	0	0	0	0	0	0
3529:	0	0	0	0	0	0	0	0
3537:	0	1	0	0	0	0	0	0
3545:	0	0	0	0	0	0	0	0
3553:	0	0	0	0	0	0	0	0
3561:	0	0	0	0	0	0	0	0
3569:	0	0	0	0	0	0	0	0
3577:	0	0	1	1	0	0	0	0
3585:	0	0	0	0	0	0	0	0
3593:	0	0	0	0	0	0	0	0
3601:	0	0	1	0	0	0	0	0
3609:	0	0	0	0	0	0	0	0
3617:	0	0	1	0	0	0	1	0
3625:	0	0	0	0	0	0	0	0
3633:	1	0	0	0	0	0	0	0
3641:	0	0	0	0	0	0	0	0
3649:	0	0	0	0	0	0	0	0
3657:	0	0	0	0	0	0	0	0
3665:	0	0	0	0	1	0	1	0
3673:	0	0	0	1	0	0	0	0
3681:	0	0	0	0	0	0	0	0
3689:	1	0	0	0	0	0	0	0
3697:	0	0	0	1	0	0	1	0
3705:	0	0	0	0	0	0	0	0
3713:	0	0	0	0	0	0	0	0
3721:	0	0	0	0	0	0	0	1
3729:	0	1	0	0	0	0	0	0
3737:	0	0	0	0	0	0	0	0
3745:	0	0	1	0	0	0	0	0
3753:	0	0	0	0	0	0	0	0
3761:	1	0	0	0	0	0	0	0
3769:	0	0	0	0	0	0	0	1
3777:	0	0	0	0	0	0	0	1
3785:	0	0	1	0	0	0	0	0

3793:	0	0	0	0	1	0	0	0
3801:	0	0	0	0	0	0	0	0
3809:	0	0	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	1
3825:	0	0	0	0	0	0	0	1
3833:	0	0	0	0	0	0	1	0
3841:	0	0	0	1	1	0	0	0
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	0	0	0	0	0
3865:	0	0	0	0	0	0	0	0
3873:	0	0	0	0	0	0	0	0
3881:	0	0	0	0	0	0	1	0
3889:	0	0	1	1	0	0	0	1
3897:	1	0	0	0	0	0	0	1
3905:	0	0	0	0	0	0	0	0
3913:	0	0	0	0	0	0	0	0
3921:	0	0	0	0	1	0	0	1
3929:	0	0	0	0	0	1	0	0
3937:	0	0	0	0	0	0	0	0
3945:	0	0	0	0	0	0	0	0
3953:	0	0	1	0	1	0	0	0
3961:	0	0	1	0	0	1	0	0
3969:	0	0	0	0	0	0	0	1
3977:	0	0	0	0	0	0	0	0
3985:	0	0	0	0	0	0	0	0
3993:	0	0	0	0	0	0	0	0
4001:	0	0	0	0	0	0	0	0
4009:	1	0	0	0	0	0	0	0
4017:	0	0	0	0	0	0	0	0
4025:	0	0	0	0	0	1	0	0
4033:	0	0	0	0	0	0	0	0
4041:	0	0	1	0	0	0	0	1
4049:	0	0	0	0	0	0	0	0
4057:	1	0	0	0	0	0	0	1
4065:	1	0	0	0	0	0	0	0
4073:	0	0	1	0	0	0	0	0
4081:	0	0	0	0	0	0	0	0
4089:	0	0	0	0	0	0	1	0

Sample ID : 1201163-08 Acquisition date : 22-FEB-2012 12:09:49

VAX/VMS Peak Search Report Generated 22-FEB-2012 13:10:50.08

Configuration : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116308_GE2_GAS1102_176253.
Analyses by : PEAK V16.9 ENBACK V1.6 PEAKEFF V2.2
Client ID : JM-65-31-120128
Deposition Date :
Sample Date : 28-JAN-2012 00:00:00 Acquisition date : 22-FEB-2012 12:09:49
Sample ID : 1201163-08 Sample Quantity : 4.42260E+02 gram
Sample type : SOLID Sample Geometry : 0
Detector name : GE2 Detector Geometry: GAS-1102
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:45.74 1.3%
Start channel : 5 End channel : 4096
Sensitivity : 2.40000 Gaussian : 15.00000
Critical level : Yes

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	26.80	825	14540	2.99	26.74	25	5	44.5		TH-231
0	32.03	1313	14546	1.42	31.98	30	5	28.1		
0	46.19*	6676	27865	1.58	46.13	44	5	7.4		PB-210
0	53.64*	3060	25587	1.31	53.59	51	5	16.1		
0	63.30*	12013	35472	1.59	63.26	61	5	5.0		TH-234
1	68.17	2253	14997	1.44	68.13	67	16	13.7	4.07E+03	
1	75.17*	37736	28438	1.45	75.13	67	16	1.6		AM-243
4	84.04	5029	20500	1.06	84.00	82	15	7.6	1.90E+03	TH-231
4	87.40	15558	23378	1.20	87.36	82	15	3.2		NP-237
										SN-126
										CD-109
4	90.03	6296	21553	1.35	90.00	82	15	7.5		
0	98.02	1498	23851	1.80	97.99	97	6	33.1		
0	112.71	1198	19951	1.31	112.68	111	5	35.9		
0	143.88*	2670	29083	1.26	143.87	141	7	21.5		U-235
0	154.34	1551	25084	1.49	154.33	152	6	32.7		
0	163.29*	569	18510	1.70	163.28	162	5	72.4		U-235
0	186.06*	25700	27362	1.38	186.06	182	8	2.6		RA-226
0	196.41	570	15458	1.48	196.41	195	5	66.0		
0	205.37	618	16770	1.64	205.38	203	6	67.0		U-235
1	235.98	2399	11119	1.55	236.00	231	16	13.7	6.33E+00	NB-95M
1	241.94*	26852	8307	1.39	241.97	231	16	1.6		RA-224
1	256.13*	1247	9249	1.72	256.16	253	10	24.1	8.87E+00	
1	258.93	2075	9148	1.72	258.96	253	10	14.8		
6	269.83	3783	14081	2.79	269.86	264	14	11.3	1.68E+01	
6	274.49	1267	8684	1.63	274.53	264	14	23.1		
0	285.40	574	10015	3.28	285.44	283	6	55.9		
0	295.13*	58613	12769	1.42	295.18	291	8	1.1		PB-214
0	299.67	291	6115	0.95	299.71	299	4	76.9		
0	304.11	293	7020	2.06	304.16	303	5	87.0		
0	314.08	397	7956	1.95	314.12	312	6	71.9		
0	323.62	548	7816	1.38	323.67	322	6	51.7		RA-223
0	329.39	393	6668	1.34	329.44	328	5	63.1		
0	338.15*	273	5334	1.37	338.21	337	4	76.8		
0	351.78*	101347	11920	1.45	351.84	347	10	0.7		PB-214
0	371.55	238	5143	2.76	371.62	370	5	91.2		

AG
2/23/12

Sample ID : 1201163-08 Acquisition date : 22-FEB-2012 12:09:49

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
6	384.71	261	3117	2.46	384.78	383	10	56.8	3.28E+01	
6	388.48	1547	7211	2.36	388.56	383	10	19.0		
1	401.75	956	6397	1.87	401.83	399	11	27.4	1.03E+00	RN-219
1	405.09	901	6447	1.87	405.17	399	11	29.4		PB-211
0	427.20	412	5882	1.84	427.29	425	6	60.0		
0	445.00	306	4466	4.61	445.09	443	6	70.2		
0	454.42	595	5776	1.88	454.52	451	8	45.0		
0	461.49	378	4313	1.66	461.60	459	6	55.9		
0	480.02	715	4507	1.89	480.13	477	7	32.1		
0	486.75	836	4308	1.90	486.87	484	7	27.0		
0	510.73*	1142	4759	3.25	510.85	506	9	22.7		
0	533.24	418	4350	1.81	533.37	530	8	55.4		
0	542.80	246	3066	1.94	542.93	541	6	72.2		
0	571.24	142	2961	2.83	571.39	570	6	122.6		
0	579.98	456	2967	1.55	580.13	577	6	38.9		
0	609.03*	74074	4472	1.74	609.19	604	10	0.8		BI-214
0	616.60	262	2524	4.39	616.77	614	7	65.0		
0	624.06	130	2056	2.98	624.22	622	6	111.5		
0	647.83	184	2662	3.27	648.01	645	8	98.4		
3	665.15	2258	1652	1.71	665.33	660	10	6.9	1.54E+00	
0	682.87	122	2070	1.45	683.05	680	6	119.5		
0	702.89	601	3377	1.85	703.09	699	9	35.8		
0	719.70	533	2565	1.99	719.90	716	8	34.0		
0	741.98	459	2596	2.28	742.19	739	8	39.5		
0	752.87	139	2225	1.95	753.08	751	7	114.3		
0	768.05*	7450	5578	1.96	768.27	762	18	5.2		
0	785.63	1622	2919	1.89	785.85	782	9	13.0		
0	805.84	1569	2889	1.67	806.08	802	9	13.4		
0	820.28	153	2017	1.91	820.52	819	6	94.2		
1	825.96	214	1631	1.79	826.20	824	20	58.0	5.49E-01	
1	831.96	279	1927	2.00	832.20	824	20	51.0		PB-211
1	838.62	973	1883	2.10	838.87	824	20	15.6		
3	929.36	127	887	2.50	929.64	928	12	62.8	3.24E+00	
3	933.68	3594	1730	1.90	933.96	928	12	5.0		
0	963.74	381	1997	1.66	964.03	961	7	40.2		
0	1000.48*	815	2000	2.16	1000.79	997	8	20.3		PA-234M
0	1051.18	319	1791	2.40	1051.51	1049	8	47.2		
0	1069.54	299	1976	2.18	1069.87	1066	9	54.9		
0	1096.39	142	1395	2.55	1096.73	1094	7	88.7		
0	1103.64	157	1409	2.02	1103.98	1101	7	81.0		
0	1119.81*	15762	2392	2.05	1120.16	1115	11	2.0		BI-214
0	1133.33	225	1712	1.84	1133.69	1130	8	65.1		
0	1154.78	1837	2105	2.18	1155.14	1150	11	10.8		
0	1181.74	175	1315	2.31	1182.12	1179	7	70.6		
0	1206.66	479	1678	2.28	1207.04	1202	10	33.3		
0	1227.61	120	1228	1.53	1228.00	1224	8	103.2		
0	1237.56	5826	1776	2.16	1237.96	1233	11	3.8		
0	1252.52	382	1459	3.84	1252.92	1249	9	37.4		
0	1280.50	1426	1920	2.30	1280.91	1274	12	13.4		
0	1316.32	112	1059	1.89	1316.75	1314	7	98.5		
3	1377.06	4178	989	2.31	1377.51	1372	18	4.0	1.12E+00	

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
3	1384.61	794	974	2.38	1385.07	1372	18	14.8		
0	1392.24	116	990	5.11	1392.69	1390	7	91.4		
0	1400.50	930	1553	2.10	1400.95	1397	9	16.6		
0	1407.42	2182	1133	2.28	1407.88	1405	8	6.8		
0	1424.62	113	1032	1.57	1425.08	1422	7	96.2		
0	1460.23*	834	1678	2.21	1460.71	1456	11	20.3		K-40
0	1508.50	1834	1577	2.34	1509.00	1504	10	9.4		
3	1537.51	450	1292	3.06	1538.02	1531	17	30.3	3.43E+00	
3	1542.92	432	1110	2.67	1543.43	1531	17	29.0		
0	1582.56	514	1007	2.32	1583.08	1579	9	24.0		
3	1593.85	214	852	2.64	1594.38	1590	13	49.2	8.55E-01	
3	1598.61	219	746	2.18	1599.14	1590	13	43.8		
0	1648.32	43	290	2.83	1648.87	1647	5	122.6		
0	1660.78	943	703	2.60	1661.34	1656	12	13.1		
1	1682.84	192	363	2.39	1683.40	1680	18	35.5	1.23E+00	
1	1692.32	276	503	3.39	1692.89	1680	18	32.7		
0	1728.79	2784	536	2.58	1729.37	1722	12	5.0		
4	1758.37	65	190	2.90	1758.96	1757	15	72.3	1.43E+00	
4	1763.68*	12667	334	2.54	1764.28	1757	15	1.9		BI-214
0	1780.31	63	229	2.94	1780.91	1778	7	84.6		
1	1837.20	244	291	2.70	1837.82	1830	22	27.1	1.99E+00	
1	1846.58	1722	268	2.64	1847.20	1830	22	5.9		
0	1872.46	193	394	3.28	1873.09	1868	11	42.4		
0	1894.28	220	706	9.05	1894.92	1886	18	58.3		
0	1935.37	172	412	3.15	1936.02	1930	12	49.5		
0	1961.49	87	415	5.71	1962.16	1958	13	98.3		
0	1994.32	49	243	2.12	1995.00	1991	9	118.2		
0	2008.76	92	217	4.68	2009.45	2005	9	61.1		
0	2016.04	70	189	2.03	2016.73	2014	7	69.2		
0	2099.78	22	51	2.35	2100.50	2099	5	105.5		
3	2108.69	59	118	3.40	2109.41	2104	20	73.7	9.99E-01	
3	2117.42*	882	97	2.87	2118.15	2104	20	7.9		
0	2168.12	26	56	2.11	2168.86	2166	6	102.0		
0	2174.88	35	46	3.46	2175.63	2173	6	69.5		
0	2187.40	120	157	15.58	2188.15	2179	19	53.4		
0	2202.94	3336	178	2.87	2203.69	2198	14	3.8		BI-214
0	2292.42	246	75	2.72	2293.21	2287	14	19.8		
0	2446.42	1011	43	2.92	2447.27	2439	15	6.9		
0	2613.44*	51	5	3.21	2614.35	2609	11	35.3		
0	2692.24	14	2	1.75	2693.18	2689	8	63.6		
0	2698.48	7	0	2.22	2699.43	2697	6	75.6		
0	2716.30	9	2	4.61	2717.25	2712	10	96.2		
0	2729.51	10	6	4.79	2730.47	2725	10	120.2		
0	2768.18	20	0	1.45	2769.15	2764	10	44.7		
0	2977.15	10	0	3.98	2978.20	2974	8	63.2		
0	3052.09	18	0	4.47	3053.17	3048	11	47.1		
0	3080.06	7	0	2.70	3081.14	3077	7	75.6		

Sample ID : 1201163-08 Acquisition date : 22-FEB-2012 12:09:49

Total number of lines in spectrum	132	
Number of unidentified lines	81	
Number of lines tentatively identified by NID	51	38.64%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.896E+01	2.896E+01	0.668E+01	23.07	
PB-210	22.26Y	1.00	1.210E+02	1.212E+02	0.144E+02	11.86	
PB-211	3.28E+04Y	1.00	3.232E+01	3.232E+01	0.897E+01	27.76	
BI-214	1602.00Y	1.00	3.172E+02	3.172E+02	0.165E+02	5.19	
PB-214	1602.00Y	1.00	3.319E+02	3.319E+02	0.222E+02	6.70	
RN-219	3.28E+04Y	1.00	1.999E+01	1.999E+01	0.582E+01	29.10	
RA-223	3.28E+04Y	1.00	1.630E+01	1.630E+01	0.857E+01	52.55	
RA-224	1.41E+10Y	1.00	6.391E+02	6.391E+02	0.593E+02	9.28	
RA-226	1602.00Y	1.00	6.336E+02	6.336E+02	11.61E+02	183.17	
PA-234M	4.47E+09Y	1.00	2.509E+02	2.509E+02	0.567E+02	22.62	
TH-234	4.47E+09Y	1.00	2.133E+02	2.133E+02	0.225E+02	10.53	
U-235	7.04E+08Y	1.00	1.422E+01	1.422E+01	0.363E+01	25.53	
			---------	---------			
	Total Activity :		2.619E+03	2.619E+03			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
NB-95M	3.61D	134.	8.895E+00	1.196E+03	0.197E+03	16.44	
AM-243	7380.00Y	1.00	3.736E+01	3.736E+01	0.440E+01	11.78	
			---------	---------			
	Total Activity :		4.625E+01	1.234E+03			

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CD-109	464.00D	1.04	2.712E+02	2.818E+02	0.458E+02	16.26	
SN-126	1.00E+05Y	1.00	2.726E+01	2.726E+01	0.410E+01	15.03	
TH-231	7.04E+08Y	1.00	7.592E+00	7.592E+00	3.568E+00	47.00	
NP-237	2.14E+06Y	1.00	8.005E+01	8.005E+01	1.183E+01	14.78	
			---------	---------			
	Total Activity :		3.861E+02	3.967E+02			

Grand Total Activity :	3.051E+03	4.249E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
K-40	1460.81	10.67*	4.582E-01	2.896E+01	2.896E+01	23.07	OK
Final Mean for 1 Valid Peaks = 2.896E+01+/- 6.681E+00 (23.07%)							
PB-210	46.50	4.25*	2.204E+00	1.210E+02	1.212E+02	11.86	OK
Final Mean for 1 Valid Peaks = 1.212E+02+/- 1.437E+01 (11.86%)							
PB-211	404.84	2.90*	1.241E+00	4.250E+01	4.250E+01	31.04	OK
	831.96	2.90	6.924E-01	2.355E+01	2.355E+01	51.95	OK
Final Mean for 2 Valid Peaks = 3.232E+01+/- 8.971E+00 (27.76%)							
BI-214	609.31	46.30*	8.915E-01	3.046E+02	3.046E+02	9.86	OK
	1120.29	15.10	5.508E-01	3.217E+02	3.217E+02	10.30	OK
	1764.49	15.80	4.084E-01	3.333E+02	3.333E+02	10.21	OK
	2204.22	4.98	3.644E-01	3.120E+02	3.121E+02	11.25	OK
Final Mean for 4 Valid Peaks = 3.172E+02+/- 1.645E+01 (5.19%)							
PB-214	295.21	19.19	1.574E+00	3.295E+02	3.295E+02	9.31	OK
	351.92	37.19*	1.383E+00	3.345E+02	3.345E+02	9.66	OK
Final Mean for 2 Valid Peaks = 3.319E+02+/- 2.225E+01 (6.70%)							
RN-219	401.80	6.50*	1.248E+00	1.999E+01	1.999E+01	29.10	OK
Final Mean for 1 Valid Peaks = 1.999E+01+/- 5.818E+00 (29.10%)							
RA-223	323.87	3.88*	1.472E+00	1.630E+01	1.630E+01	52.55	OK
Final Mean for 1 Valid Peaks = 1.630E+01+/- 8.566E+00 (52.55%)							
RA-224	240.98	3.95*	1.806E+00	6.391E+02	6.391E+02	9.28	OK
Final Mean for 1 Valid Peaks = 6.391E+02+/- 5.931E+01 (9.28%)							
RA-226	186.21	3.28*	2.099E+00	6.336E+02	6.336E+02	183.17	OK
Final Mean for 1 Valid Peaks = 6.336E+02+/- 1.161E+03 (183.17%)							
PA-234M	1001.03	0.92*	5.993E-01	2.509E+02	2.509E+02	22.62	OK
Final Mean for 1 Valid Peaks = 2.509E+02+/- 5.674E+01 (22.62%)							
TH-234	63.29	3.80*	2.516E+00	2.133E+02	2.133E+02	10.53	OK
Final Mean for 1 Valid Peaks = 2.133E+02+/- 2.245E+01 (10.53%)							

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
U-235	143.76	10.50*	2.361E+00	1.828E+01	1.828E+01	27.93	OK
	163.35	4.70	2.238E+00	9.181E+00	9.181E+00	74.89	OK
	205.31	4.70	1.990E+00	1.121E+01	1.121E+01	69.73	OK

Final Mean for 3 Valid Peaks = 1.422E+01+/- 3.631E+00 (25.53%)

Nuclide Type: ACTIVATION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
NB-95M	235.69	25.00*	1.831E+00	8.895E+00	1.196E+03	16.44	OK

Final Mean for 1 Valid Peaks = 1.196E+03+/- 1.967E+02 (16.44%)

AM-243	74.67	66.00*	2.598E+00	3.736E+01	3.736E+01	11.78	OK

Final Mean for 1 Valid Peaks = 3.736E+01+/- 4.400E+00 (11.78%)

Nuclide Type: FISSION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
CD-109	88.03	3.72*	2.618E+00	2.712E+02	2.818E+02	16.26	OK

Final Mean for 1 Valid Peaks = 2.818E+02+/- 4.581E+01 (16.26%)

SN-126	87.57	37.00*	2.618E+00	2.726E+01	2.726E+01	15.03	OK

Final Mean for 1 Valid Peaks = 2.726E+01+/- 4.099E+00 (15.03%)

TH-231	25.64	14.70*	1.255E+00	7.592E+00	7.592E+00	47.00	OK
	84.21	6.40	2.618E+00	5.094E+01	5.094E+01	15.83	<<WM N-Sigma

Final Mean for 1 Valid Peaks = 7.592E+00+/- 3.568E+00 (47.00%)

NP-237	86.50	12.60*	2.619E+00	8.005E+01	8.005E+01	14.78	OK

Final Mean for 1 Valid Peaks = 8.005E+01+/- 1.183E+01 (14.78%)

Flag: "*" = Keyline

Sample ID : 1201163-08 Acquisition date : 22-FEB-2012 12:09:49

---- Identified Nuclides ----

Nuclide	Activity (pCi/gram)	Act error	MDA (pCi/gram)	MDA error	Act/MDA
K-40	2.896E+01	6.681E+00	5.257E+00	5.390E-01	5.509
NB-95M	1.196E+03	1.967E+02	2.344E+02	1.927E+01	5.104
CD-109	2.818E+02	4.581E+01	1.333E+01	2.056E+00	21.140
SN-126	2.726E+01	4.099E+00	1.289E+00	1.822E-01	21.147
PB-210	1.212E+02	1.437E+01	1.093E+01	9.162E-01	11.092
PB-211	3.232E+01	8.971E+00	1.647E+01	1.485E+00	1.963
BI-214	3.172E+02	1.645E+01	9.800E-01	8.795E-02	323.629
PB-214	3.319E+02	2.225E+01	1.174E+00	1.028E-01	282.607
RN-219	1.999E+01	5.818E+00	7.298E+00	6.570E-01	2.739
RA-223	1.630E+01	8.566E+00	1.125E+01	9.639E-01	1.450
RA-224	6.391E+02	5.931E+01	1.121E+01	9.223E-01	57.021
RA-226	6.336E+02	1.161E+03	1.419E+01	2.598E+01	44.663
TH-231	7.592E+00	3.568E+00	4.390E+00	6.466E-01	1.729
PA-234M	2.509E+02	5.674E+01	5.814E+01	5.338E+00	4.315
TH-234	2.133E+02	2.245E+01	1.351E+01	1.125E+00	15.790
U-235	1.422E+01	3.631E+00	4.272E+00	7.396E-01	3.329
NP-237	8.005E+01	1.183E+01	3.783E+00	5.243E-01	21.161
AM-243	3.736E+01	4.400E+00	7.666E-01	8.402E-02	48.729

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
BE-7	5.214E+00		3.890E+00	6.054E+00	5.598E-01	0.861
NA-22	2.705E-01		3.701E-01	5.468E-01	5.389E-02	0.495
AL-26	-1.150E-01		1.890E-01	3.202E-01	2.895E-02	-0.359
TI-44	1.585E+00	+	2.706E-01	5.776E-01	5.415E-02	2.744
SC-46	9.156E-02		4.191E-01	6.977E-01	6.255E-02	0.131
V-48	6.033E-01		9.815E-01	1.636E+00	1.497E-01	0.369
CR-51	-2.725E-02		6.559E+00	8.280E+00	7.457E-01	-0.003
MN-54	8.489E-01		3.803E-01	5.788E-01	5.196E-02	1.467
CO-56	7.003E-02		4.272E-01	6.388E-01	5.736E-02	0.110
CO-57	-7.090E-02		3.115E-01	5.074E-01	4.303E-02	-0.140
CO-58	2.751E-02		4.304E-01	6.442E-01	5.787E-02	0.043
FE-59	8.991E-01		1.179E+00	1.398E+00	1.388E-01	0.643
CO-60	3.068E-01		3.764E-01	5.592E-01	5.186E-02	0.549
ZN-65	1.313E+01		1.651E+00	1.788E+00	1.661E-01	7.344
GA-67	5.251E+03		1.845E+04	3.754E+02	1.319E+03	13.987
SE-75	-7.098E-01		6.606E-01	8.264E-01	6.848E-02	-0.859
RB-82	4.566E+00		6.083E+00	7.386E+00	6.592E-01	0.618
RB-83	-1.063E-01		6.591E-01	1.123E+00	1.796E-01	-0.095
KR-85	1.513E+02		6.565E+01	1.017E+02	9.420E+00	1.487
SR-85	8.650E-01		3.754E-01	5.817E-01	5.386E-02	1.487
Y-88	1.232E+00	+	3.545E-01	5.538E-01	4.944E-02	2.224
NB-93M	3.095E+00		9.933E+00	1.689E+01	5.085E+00	0.183
NB-94	-7.617E-02		3.246E-01	5.375E-01	4.825E-02	-0.142
NB-95	2.183E+01		2.263E+00	1.557E+00	1.387E-01	14.024
ZR-95	-7.050E-03		9.350E-01	1.112E+00	1.084E-01	-0.006

Sample ID : 1201163-08 Acquisition date : 22-FEB-2012 12:09:49

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
RU-103	1.415E-01		4.359E-01	7.474E-01	1.088E-01	0.189
RU-106	1.970E+00		3.582E+00	4.396E+00	5.953E-01	0.448
AG-108M	5.018E-01		3.356E-01	5.158E-01	4.548E-02	0.973
AG-110M	1.802E-01		3.550E-01	4.978E-01	4.307E-02	0.362
SN-113	-6.551E-02		5.353E-01	8.317E-01	7.656E-02	-0.079
TE123M	2.268E-01		4.851E-01	6.377E-01	5.130E-02	0.356
SB-124	1.829E-01		4.171E-01	6.389E-01	5.757E-02	0.286
I-125	-5.156E+00		6.327E+00	9.800E+00	1.005E+00	-0.526
SB-125	2.042E+00	+	1.242E+00	1.707E+00	1.584E-01	1.196
SB-126	9.010E+00	+	3.188E+00	3.879E+00	3.418E-01	2.323
SB-127	9.047E-02		8.318E+01	1.257E+02	1.094E+01	0.001
I-129	6.762E-01		6.919E-01	9.654E-01	1.183E-01	0.700
I-131	2.182E-02		2.872E+00	4.759E+00	4.201E-01	0.005
TE-132	4.327E+01		7.827E+01	1.154E+02	9.472E+00	0.375
BA-133	4.706E-01		4.920E-01	7.102E-01	9.452E-02	0.663
CS-134	3.607E+00		5.048E-01	6.220E-01	5.610E-02	5.799
CS-135	1.617E+01		2.440E+00	3.058E+00	2.514E-01	5.287
CS-136	7.624E-01		1.774E+00	2.632E+00	2.494E-01	0.290
CS-137	9.439E-01		3.632E-01	5.596E-01	4.833E-02	1.687
LA-138	-1.399E-01		5.100E-01	8.186E-01	8.252E-02	-0.171
CE-139	4.915E-01		4.274E-01	6.385E-01	5.083E-02	0.770
BA-140	-1.843E-01		5.793E+00	7.066E+00	2.353E+00	-0.026
LA-140	5.937E+00		1.613E+00	2.617E+00	2.554E-01	2.269
CE-141	4.686E+00		1.549E+00	1.700E+00	3.877E-01	2.756
CE-144	-2.573E-02		2.572E+00	4.182E+00	3.486E-01	-0.006
PM-144	-1.909E-01		3.207E-01	4.777E-01	4.180E-02	-0.400
PM-145	-1.341E+00		1.651E+00	2.171E+00	1.417E+00	-0.618
PM-146	2.252E+00	+	1.038E+00	1.173E+00	1.079E-01	1.920
ND-147	2.215E+01		1.100E+01	1.705E+01	1.576E+00	1.299
EU-152	5.302E+01	+	7.679E+00	6.419E+00	7.786E-01	8.260
GD-153	-8.700E-01		1.243E+00	1.869E+00	2.178E-01	-0.466
EU-154	7.377E-01		1.028E+00	1.518E+00	1.496E-01	0.486
EU-155	3.296E+01	+	4.871E+00	1.968E+00	2.727E-01	16.752
EU-156	7.479E-01		1.022E+01	1.529E+01	3.514E+00	0.049
HO-166M	-4.366E-01		7.219E-01	8.450E-01	7.424E-02	-0.517
HF-172	3.528E-01		2.298E+00	3.747E+00	3.157E-01	0.094
LU-172	-2.286E+00		8.129E+00	1.182E+01	1.096E+00	-0.193
LU-173	1.456E+01		2.040E+00	2.457E+00	2.018E-01	5.927
HF-175	-2.462E-01		5.613E-01	6.997E-01	6.091E-02	-0.352
LU-176	2.660E-01		3.095E-01	4.514E-01	3.809E-02	0.589
TA-182	1.626E+02	+	1.675E+01	6.253E+00	5.803E-01	25.999
IR-192	8.679E-01		7.646E-01	1.191E+00	1.099E-01	0.729
HG-203	-3.489E-01		6.569E-01	8.286E-01	7.005E-02	-0.421
BI-207	2.420E-01		3.004E-01	4.635E-01	4.241E-02	0.522
TL-208	9.983E-01		9.843E-01	1.519E+00	1.382E-01	0.657
BI-210M	-4.991E-02		7.519E-01	9.593E-01	7.894E-02	-0.052
BI-212	-4.670E-01		2.557E+00	3.837E+00	3.387E-01	-0.122
PB-212	6.437E+00		8.862E-01	1.126E+00	9.265E-02	5.716

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
RA-225	-7.244E-01		3.125E+00	4.866E+00	4.516E-01	-0.149
TH-227	1.935E+01	+	3.183E+00	4.250E+00	3.495E-01	4.553
AC-228	2.749E-01		1.247E+00	2.074E+00	1.865E-01	0.133
TH-230	4.042E+02	+	6.893E+01	1.471E+02	1.373E+01	2.747
PA-231	1.399E+01	+	1.224E+01	1.932E+01	1.624E+00	0.724
PA-233	1.474E+00		1.509E+00	2.154E+00	4.825E-01	0.684
PA-234	-5.471E-01		1.269E+00	2.059E+00	1.722E-01	-0.266
AM-241	5.656E+00		1.016E+00	1.429E+00	1.069E-01	3.957
CM-243	-8.170E-02		2.162E+00	3.144E+00	2.578E-01	-0.026

Sample ID : 1201163-08 Acquisition date : 22-FEB-2012 12:09:49

Total number of lines in spectrum	132	
Number of unidentified lines	81	
Number of lines tentatively identified by NID	51	38.64%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.896E+01	2.896E+01	0.668E+01	23.07	
PB-210	22.26Y	1.00	1.210E+02	1.212E+02	0.144E+02	11.86	
PB-211	3.28E+04Y	1.00	3.232E+01	3.232E+01	0.897E+01	27.76	
BI-214	1602.00Y	1.00	3.172E+02	3.172E+02	0.165E+02	5.19	
PB-214	1602.00Y	1.00	3.319E+02	3.319E+02	0.222E+02	6.70	
RN-219	3.28E+04Y	1.00	1.999E+01	1.999E+01	0.582E+01	29.10	
RA-223	3.28E+04Y	1.00	1.630E+01	1.630E+01	0.857E+01	52.55	
RA-224	1.41E+10Y	1.00	6.391E+02	6.391E+02	0.593E+02	9.28	
RA-226	1602.00Y	1.00	6.336E+02	6.336E+02	11.61E+02	183.17	
PA-234M	4.47E+09Y	1.00	2.509E+02	2.509E+02	0.567E+02	22.62	
TH-234	4.47E+09Y	1.00	2.133E+02	2.133E+02	0.225E+02	10.53	
U-235	7.04E+08Y	1.00	1.422E+01	1.422E+01	0.363E+01	25.53	
			---------	---------			
	Total Activity :		2.619E+03	2.619E+03			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
NB-95M	3.61D	134.	8.895E+00	1.196E+03	0.197E+03	16.44	
AM-243	7380.00Y	1.00	3.736E+01	3.736E+01	0.440E+01	11.78	
			---------	---------			
	Total Activity :		4.625E+01	1.234E+03			

Nuclide Type : FISSION

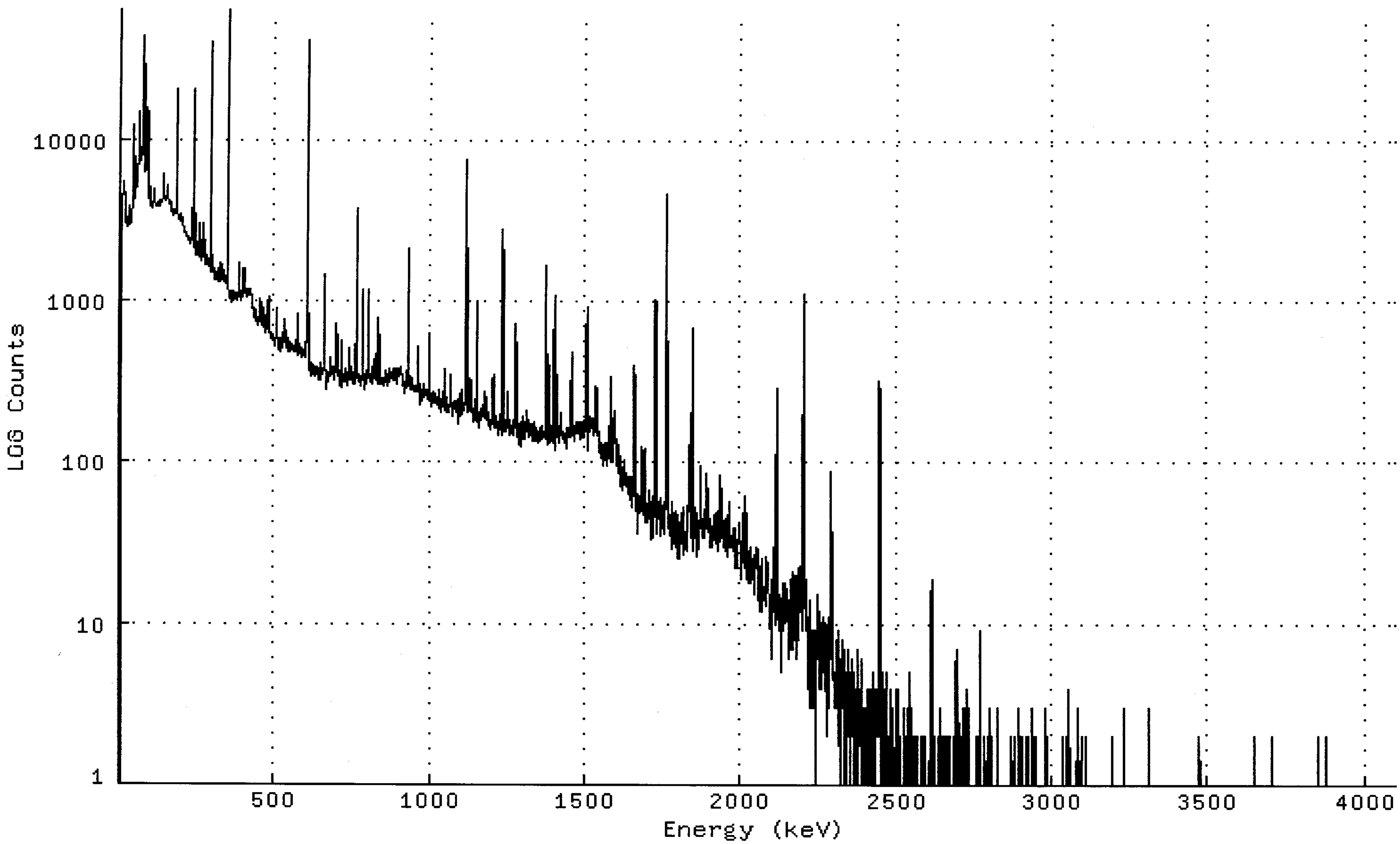
Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CD-109	464.00D	1.04	2.712E+02	2.818E+02	0.458E+02	16.26	
SN-126	1.00E+05Y	1.00	2.726E+01	2.726E+01	0.410E+01	15.03	
TH-231	7.04E+08Y	1.00	7.592E+00	7.592E+00	3.568E+00	47.00	
NP-237	2.14E+06Y	1.00	8.005E+01	8.005E+01	1.183E+01	14.78	
			---------	---------			
	Total Activity :		3.861E+02	3.967E+02			

Grand Total Activity : 3.051E+03 4.249E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Spectrum : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116308_GE2_GAS1102_176253.CNF;1
Title :
Sample Title: JM-65-31-120128

Start Time:	22-FEB-2012 12:09	Sample Time:	28-JAN-2012 00:00	Energy Offset:	6.87229E-02
Real Time :	0 01:00:45.74	Sample ID :	1201163-08	Energy Slope :	9.99625E-01
Live Time :	0 01:00:00.00	Sample Type:	SOLID	Energy Quad :	0.00000E+00



Channel Contents for DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116308_GE2_GAS1102_1762

Channel

1:	0	0	0	0	0	1	1	1944
9:	3373	4016	4991	4440	4981	5335	4547	5077
17:	4074	3355	3431	3352	2940	2942	2849	2865
25:	3057	3130	3197	3110	2871	2876	3142	3759
33:	3177	2905	2961	3280	3430	3298	3355	3478
41:	3715	3789	3897	4093	4456	9911	11940	4204
49:	4364	5524	4792	4950	7706	6208	4998	5180
57:	5461	5820	6447	6908	7279	7574	14471	11137
65:	7060	7130	8002	8818	7491	7476	7690	7902
73:	8203	13387	29324	13920	43142	19545	8285	7886
81:	8240	6116	6777	11145	6306	6390	15417	11253
89:	6463	9673	5796	10548	14636	6322	5973	4172
97:	4086	4995	4805	3899	3749	3815	3933	3712
105:	3921	3847	3910	3967	4147	4154	4208	4304
113:	4765	4034	3838	3898	3842	3893	3802	3739
121:	3851	4039	3860	3831	3928	3976	3845	4080
129:	3801	3907	4033	3855	4001	3996	3955	4093
137:	4014	4116	4080	4177	4241	4218	4618	5981
145:	4449	4187	4070	4159	4203	4339	4318	4196
153:	4403	5115	4561	4186	4174	4080	4066	3892
161:	3842	3843	4093	3919	3569	3667	3557	3507
169:	3538	3540	3439	3434	3347	3528	3433	3432
177:	3484	3525	3486	3465	3575	3552	3526	3595
185:	7150	19930	8722	3368	3299	3290	3277	3288
193:	3247	3134	3226	3406	3200	3158	3038	3031
201:	3057	3136	2897	2921	3253	3006	2703	2608
209:	2680	2774	2577	2609	2563	2568	2602	2532
217:	2473	2466	2437	2398	2473	2414	2442	2476
225:	2333	2408	2405	2378	2329	2398	2216	2341
233:	2348	2320	2629	3712	2600	2299	2377	2112
241:	6851	20250	5870	2016	1951	1894	2015	1986
249:	1953	1991	1936	1897	1871	1869	2056	2554
257:	2207	2356	2985	1970	1867	1754	1836	1743
265:	1728	1738	1739	1829	2973	2803	2761	2184
273:	1831	2283	2326	1735	1727	1721	1636	1692
281:	1780	1705	1769	1874	1651	1902	1746	1647
289:	1597	1660	1717	1605	1682	7159	39152	16836
297:	1760	1475	1529	1862	1473	1542	1547	1589
305:	1496	1373	1308	1327	1363	1354	1314	1387
313:	1398	1492	1419	1312	1345	1273	1358	1349
321:	1292	1302	1447	1683	1354	1281	1297	1316
329:	1452	1642	1345	1306	1397	1488	1417	1304
337:	1348	1514	1406	1341	1335	1355	1383	1276
345:	1264	1336	1358	1378	1554	2184	26950	63865
353:	12660	1187	1055	1091	1010	1031	1040	1030
361:	1041	967	1066	1116	1062	1020	981	1114
369:	1012	1062	1095	1122	1104	998	1048	1103
377:	1036	1062	983	1030	1034	1063	1022	1107
385:	1027	1309	1434	1337	1665	1111	1041	1005
393:	1039	1053	1047	1129	1136	1032	1083	1085
401:	1344	1546	1193	1226	1538	1319	1108	1124
409:	1100	1071	1044	1110	1098	1167	1123	1125
417:	1102	1159	1069	1135	1070	1121	1055	1100
425:	1057	1125	1165	1013	994	940	889	873

433:	891	867	858	793	772	820	889	863
441:	775	738	828	804	839	805	760	736
449:	700	725	710	749	758	925	1013	762
457:	725	729	722	729	854	950	737	699
465:	729	668	703	713	780	878	672	682
473:	621	784	711	622	700	654	705	991
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497:	603	603	582	582	582	540	547	579
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577:	488	455	593	808	617	462	527	492
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593:	482	479	493	469	490	447	468	443
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793:	319	275	281	323	301	329	327	360
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3537:	0	0	0	0	0	0	0	0
3545:	0	1	0	1	1	0	0	0
3553:	1	0	0	1	1	0	0	0
3561:	0	0	0	0	0	0	0	0
3569:	0	0	0	0	0	0	0	0
3577:	0	0	1	0	0	0	0	1
3585:	0	0	1	0	0	0	0	0
3593:	0	0	0	0	1	0	1	0
3601:	0	0	0	0	0	0	0	1
3609:	0	0	0	0	0	1	0	0
3617:	0	0	0	0	0	0	1	0
3625:	0	0	0	0	0	0	0	0
3633:	0	0	0	0	0	0	0	0
3641:	0	0	0	0	0	0	2	0
3649:	0	0	1	0	0	0	0	0
3657:	0	1	0	0	0	0	0	0
3665:	0	0	1	0	0	1	1	0
3673:	0	0	0	0	1	0	0	0
3681:	0	0	1	0	0	0	0	0
3689:	0	1	0	0	0	0	0	0
3697:	0	0	0	0	1	0	2	0
3705:	1	0	0	0	0	0	1	0
3713:	0	1	0	1	0	0	0	0
3721:	0	0	0	0	1	0	0	0
3729:	0	0	0	0	0	0	1	0
3737:	0	0	0	0	1	0	0	0
3745:	0	1	0	0	0	0	0	0
3753:	0	0	0	1	0	0	0	0
3761:	0	0	1	0	0	0	1	0
3769:	0	0	1	0	1	0	1	0
3777:	0	0	0	1	0	0	1	0
3785:	1	0	0	0	0	0	0	0

3793:	0	1	0	0	0	1	1	0
3801:	0	0	0	0	1	0	0	0
3809:	0	0	0	1	0	1	0	0
3817:	0	0	0	0	0	0	0	1
3825:	0	0	0	0	0	0	0	0
3833:	0	0	0	0	0	0	1	0
3841:	1	1	0	0	0	0	0	0
3849:	0	2	0	0	0	0	0	0
3857:	0	1	0	0	1	0	0	0
3865:	0	0	1	1	0	0	0	0
3873:	0	0	2	0	0	0	0	0
3881:	0	0	0	0	0	0	1	0
3889:	1	0	0	0	0	0	0	0
3897:	0	0	1	0	0	0	0	0
3905:	0	0	1	0	0	0	0	0
3913:	0	0	0	0	1	0	1	0
3921:	0	0	1	0	0	0	1	0
3929:	0	0	0	0	0	0	0	0
3937:	0	0	0	0	0	1	0	0
3945:	0	0	0	0	0	0	0	0
3953:	0	0	0	0	0	0	0	0
3961:	0	0	0	0	0	1	0	1
3969:	0	1	0	1	0	0	0	0
3977:	0	0	1	0	1	1	0	0
3985:	1	0	0	0	0	0	0	0
3993:	1	0	0	0	0	0	0	0
4001:	0	0	0	0	0	0	0	0
4009:	0	0	0	1	0	0	1	0
4017:	0	0	0	1	0	0	0	0
4025:	0	0	0	0	0	0	0	1
4033:	0	0	0	0	1	0	0	1
4041:	0	0	0	1	0	0	1	0
4049:	0	0	0	0	0	0	0	0
4057:	0	0	0	0	0	0	0	0
4065:	0	0	0	0	0	1	0	0
4073:	0	0	0	0	0	0	0	0
4081:	0	0	0	0	0	0	0	0
4089:	0	0	0	0	1	0	0	0

KB
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Sample ID : 1201163-09 Acquisition date : 22-FEB-2012 12:32:42

VAX/VMS Peak Search Report Generated 22-FEB-2012 13:33:25.22

Configuration : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116309_GE1_GAS1102_176256.
Analyses by : PEAK V16.9 ENBACK V1.6 PEAKEFF V2.2
Client ID : JM-66-31-120128
Deposition Date :
Sample Date : 28-JAN-2012 00:00:00 Acquisition date : 22-FEB-2012 12:32:42
Sample ID : 1201163-09 Sample Quantity : 5.87930E+02 gram
Sample type : SOLID Sample Geometry : 0
Detector name : GE1 Detector Geometry: GAS-1102
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:30.59 0.8%
Start channel : 5 End channel : 4096
Sensitivity : 2.40000 Gaussian : 15.00000
Critical level : Yes

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	46.70*	6508	11110	1.81	46.33	44	5	5.5		PB-210
0	53.39	1571	16081	1.29	53.01	50	6	26.0		
0	63.10*	2212	23117	1.30	62.73	61	6	22.1		TH-234
1	68.51	1112	18973	1.54	68.14	66	17	37.5	1.64E+03	
1	75.51*	18358	18548	1.56	75.14	66	17	3.1		AM-243
0	88.89	1191	22486	1.09	88.52	85	5	37.7		SN-126
										CD-109
0	94.09*	2858	17380	1.47	93.72	91	6	15.4		GA-67
0	112.91	355	13401	1.22	112.55	111	6	103.6		
0	144.57*	1002	13758	1.41	144.21	142	6	37.6		CE-141
0	154.76	907	16331	1.60	154.41	151	7	47.3		
0	186.54*	11044	17545	1.55	186.20	182	9	4.7		RA-226
1	236.33	1098	5151	1.46	236.00	233	14	19.3	3.42E+00	NB-95M
1	239.49*	716	6322	1.76	239.16	233	14	36.3		PB-212
1	242.40	13115	4908	1.46	242.07	233	14	2.3		RA-224
1	256.43	575	5290	1.51	256.10	254	9	39.1	6.10E+00	
1	259.18	969	5234	1.78	258.85	254	9	23.7		
7	270.67	2249	8854	3.16	270.35	265	13	15.7	5.67E+00	LU-173
7	275.10	658	4805	1.52	274.77	265	13	33.5		
4	295.64*	29045	4473	1.53	295.31	290	13	1.4	1.09E+01	PB-214
4	299.56	1035	6062	2.21	299.24	290	13	32.8		PB-212
										GA-67
0	304.77	292	3837	4.26	304.45	303	5	65.1		
0	324.23	220	3625	1.16	323.91	322	5	83.2		RA-223
0	329.71	361	4316	1.59	329.39	327	6	58.6		LA-140
0	338.90	345	3542	1.70	338.59	337	5	53.0		
2	352.34*	50244	3038	1.58	352.03	346	18	1.0	2.52E+01	PB-214
2	355.96	1350	3260	2.04	355.65	346	18	21.4		
0	388.15	790	4396	3.22	387.84	384	8	29.9		
2	402.22	385	3487	2.08	401.92	396	13	49.6	1.13E+00	RN-219
2	405.63	293	2952	1.77	405.33	396	13	56.8		
0	446.08	246	2778	4.19	445.79	443	7	72.1		
0	455.47	266	1830	1.35	455.18	453	5	49.8		
0	462.38	381	2526	2.43	462.09	459	7	45.0		
0	469.81	149	1842	1.27	469.52	467	5	88.1		
0	480.90	269	2427	1.72	480.61	478	7	62.0		

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Sample ID : 1201163-09 Acquisition date : 22-FEB-2012 12:32:42

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	487.43	322	2338	1.84	487.15	484	7	51.1		LA-140
0	511.03*	487	2409	3.69	510.75	507	8	36.3		
0	570.62*	164	1852	3.34	570.35	568	7	88.3		
6	580.67	228	1374	1.67	580.41	577	9	50.4	1.49E+00	
0	594.29	94	1161	1.07	594.03	592	5	111.2		
4	609.75*	36706	1139	1.74	609.49	603	16	1.1	1.85E+01	BI-214
4	613.40	1092	1645	2.71	613.14	603	16	36.9		
0	665.60	1082	1824	2.11	665.36	659	10	16.0		
0	703.77	274	1392	1.37	703.54	700	7	46.7		
0	720.95	216	1480	1.67	720.72	717	8	63.0		
0	727.11	96	1224	2.72	726.88	725	7	123.1		BI-212
0	742.93	160	1207	2.13	742.71	739	7	73.7		
0	768.75*	3479	2046	2.02	768.53	763	12	6.2		
0	786.42	765	1534	1.82	786.19	782	9	19.8		
0	806.67	928	1548	2.07	806.46	802	10	17.2		
0	825.97	74	857	1.57	825.76	824	5	121.6		
0	839.89	347	1450	1.90	839.68	836	8	39.6		
0	934.56	1692	1624	2.11	934.37	930	10	10.1		
0	964.42	190	1128	2.06	964.24	961	7	60.3		
0	1001.30*	184	1224	2.82	1001.12	997	9	70.2		PA-234M
0	1032.18	122	922	3.66	1032.01	1029	8	88.4		
0	1052.66	121	934	2.04	1052.50	1049	7	86.2		
0	1069.84	224	1102	2.09	1069.68	1065	10	57.1		
0	1104.63	124	734	1.68	1104.48	1101	7	74.6		
0	1120.88	8112	1394	2.12	1120.73	1115	12	2.9		BI-214
0	1134.54	190	976	3.17	1134.39	1130	9	61.1		
0	1155.83	959	948	2.27	1155.69	1151	9	13.3		
0	1207.74	230	834	1.98	1207.61	1203	9	47.2		
0	1238.77	3144	1157	2.20	1238.64	1232	14	5.8		
0	1253.69	169	821	2.51	1253.56	1250	9	63.0		
0	1281.49	697	862	2.21	1281.38	1277	10	17.5		
0	1303.83	68	468	2.26	1303.72	1301	6	104.0		
0	1335.71	56	365	1.63	1335.60	1334	5	105.9		
1	1372.32	46	237	2.40	1372.22	1371	22	88.8	3.12E+00	
1	1378.22	2044	465	2.11	1378.13	1371	22	5.5		
1	1385.88	338	530	2.40	1385.78	1371	22	25.2		
2	1402.09	708	544	2.56	1401.99	1398	17	13.8	2.05E+00	
2	1408.63	1125	512	2.46	1408.54	1398	17	8.9		
0	1461.64*	824	867	2.21	1461.56	1457	11	15.6		K-40
0	1509.88	1031	936	2.16	1509.81	1504	12	13.4		
2	1538.68	223	652	2.53	1538.62	1534	13	41.7	1.86E+00	
2	1543.49	171	456	2.01	1543.43	1534	13	43.6		
0	1583.53	290	601	1.75	1583.47	1578	10	33.7		
2	1595.58	109	451	2.73	1595.53	1591	14	70.0	1.71E+00	LA-140
2	1600.27	152	425	2.73	1600.22	1591	14	51.1		
0	1661.75	521	386	2.06	1661.71	1656	12	17.5		
0	1683.85	145	268	3.64	1683.82	1679	11	46.6		
0	1693.52	170	211	3.15	1693.49	1689	9	34.4		
0	1730.27	1467	328	2.52	1730.24	1724	13	7.3		
0	1744.34	37	136	3.76	1744.32	1741	7	109.2		
0	1765.14*	6588	373	2.30	1765.13	1758	14	2.8		BI-214

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
4	1838.97	142	113	2.44	1838.97	1833	12	30.3	1.95E+00	
4	1841.88	31	88	1.93	1841.88	1833	12	119.5		
0	1848.04	946	170	2.33	1848.04	1844	11	8.4		
0	1873.26	110	198	2.96	1873.27	1869	11	53.1		
0	1896.91	65	151	1.98	1896.92	1895	7	67.6		
0	1937.29	128	176	4.41	1937.31	1932	12	44.8		
0	1957.59	37	128	1.12	1957.62	1954	7	107.2		
0	2054.24	75	125	7.01	2054.29	2048	14	67.7		
0	2089.42	36	72	4.70	2089.47	2084	10	95.2		
0	2109.78	37	68	6.66	2109.83	2104	10	88.5		
0	2119.06	468	68	2.47	2119.11	2114	11	11.5		
0	2155.06	17	22	1.65	2155.12	2153	6	101.0		
0	2192.73	45	62	3.14	2192.80	2187	10	72.2		
0	2204.69	1788	81	2.49	2204.77	2198	14	5.2		BI-214
0	2265.32	17	28	4.83	2265.40	2261	11	129.2		
3	2286.43	19	20	3.29	2286.52	2283	18	92.1	1.39E+00	
3	2294.07	109	28	3.29	2294.16	2283	18	26.9		
0	2409.02	12	4	2.55	2409.14	2405	8	79.2		
0	2448.17	543	12	2.62	2448.30	2441	15	9.0		
0	2481.72	15	9	6.24	2481.85	2476	12	98.1		
0	2614.76*	58	10	2.29	2614.92	2609	13	35.6		
0	2695.82	7	4	1.62	2696.00	2691	7	123.6		
0	2770.45	7	2	2.27	2770.64	2767	7	94.0		
0	2922.28	8	0	1.66	2922.50	2919	7	70.7		

Sample ID : 1201163-09 Acquisition date : 22-FEB-2012 12:32:42

Total number of lines in spectrum	109	
Number of unidentified lines	66	
Number of lines tentatively identified by NID	43	39.45%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.962E+01	1.962E+01	0.356E+01	18.16	
PB-210	22.26Y	1.00	7.484E+01	7.500E+01	0.770E+01	10.26	
BI-212	1.41E+10Y	1.00	1.208E+00	1.208E+00	1.492E+00	123.47	
PB-212	1.41E+10Y	1.00	1.025E+00	1.025E+00	0.383E+00	37.38	
BI-214	1602.00Y	1.00	1.123E+02	1.123E+02	0.056E+02	5.00	
PB-214	1602.00Y	1.00	1.120E+02	1.121E+02	0.073E+02	6.52	
RN-219	3.28E+04Y	1.00	5.469E+00	5.469E+00	2.761E+00	50.48	
RA-223	3.28E+04Y	1.00	4.454E+00	4.454E+00	3.728E+00	83.69	
RA-224	1.41E+10Y	1.00	2.133E+02	2.133E+02	0.201E+02	9.40	
RA-226	1602.00Y	1.00	1.863E+02	1.863E+02	3.413E+02	183.21	
PA-234M	4.47E+09Y	1.00	3.836E+01	3.836E+01	2.714E+01	70.75	
TH-234	4.47E+09Y	1.00	2.577E+01	2.577E+01	0.610E+01	23.67	
			---------	---------			
	Total Activity :		7.947E+02	7.949E+02			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
GA-67	3.26D	228.	3.508E+00	7.998E+02	28.14E+02	351.84	
NB-95M	3.61D	135.	2.782E+00	3.753E+02	0.801E+02	21.34	
LA-140	12.79D	3.99	4.625E-01	1.846E+00	0.741E+00	40.13	
LU-173	1.37Y	1.04	7.378E+00	7.644E+00	1.386E+00	18.13	
AM-243	7380.00Y	1.00	1.208E+01	1.208E+01	0.120E+01	9.89	
			---------	---------			
	Total Activity :		2.621E+01	1.197E+03			

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CD-109	464.00D	1.04	1.395E+01	1.449E+01	0.574E+01	39.60	
SN-126	1.00E+05Y	1.00	1.402E+00	1.402E+00	0.549E+00	39.15	
CE-141	32.50D	1.72	1.021E+00	1.761E+00	0.779E+00	44.26	
			---------	---------			
	Total Activity :		1.637E+01	1.765E+01			

Grand Total Activity : 8.373E+02 2.009E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : 1201163-09 Acquisition date : 22-FEB-2012 12:32:42

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
K-40	1460.81	10.67*	5.027E-01	1.962E+01	1.962E+01	18.16	OK

Final Mean for 1 Valid Peaks = 1.962E+01+/- 3.563E+00 (18.16%)

PB-210	46.50	4.25*	2.613E+00	7.484E+01	7.500E+01	10.26	OK

Final Mean for 1 Valid Peaks = 7.500E+01+/- 7.697E+00 (10.26%)

BI-212	727.17	11.80*	8.597E-01	1.208E+00	1.208E+00	123.47	OK
	1620.62	2.75	4.684E-01	-----	Line Not Found	-----	Absent

Final Mean for 1 Valid Peaks = 1.208E+00+/- 1.492E+00 (123.47%)

PB-212	238.63	44.60*	2.000E+00	1.025E+00	1.025E+00	37.38	OK
	300.09	3.41	1.716E+00	2.257E+01	2.257E+01	34.03	<<WM Interf

Final Mean for 1 Valid Peaks = 1.025E+00+/- 3.832E-01 (37.38%)

BI-214	609.31	46.30*	9.927E-01	1.020E+02	1.020E+02	10.18	OK
	1120.29	15.10	6.104E-01	1.124E+02	1.124E+02	9.56	OK
	1764.49	15.80	4.432E-01	1.201E+02	1.201E+02	9.40	OK
	2204.22	4.98	3.885E-01	1.180E+02	1.180E+02	11.00	OK

Final Mean for 4 Valid Peaks = 1.123E+02+/- 5.615E+00 (5.00%)

PB-214	295.21	19.19	1.736E+00	1.113E+02	1.113E+02	9.20	OK
	351.92	37.19*	1.529E+00	1.128E+02	1.128E+02	9.24	OK

Final Mean for 2 Valid Peaks = 1.121E+02+/- 7.302E+00 (6.52%)

RN-219	401.80	6.50*	1.383E+00	5.469E+00	5.469E+00	50.48	OK

Final Mean for 1 Valid Peaks = 5.469E+00+/- 2.761E+00 (50.48%)

RA-223	323.87	3.88*	1.626E+00	4.454E+00	4.454E+00	83.69	OK

Final Mean for 1 Valid Peaks = 4.454E+00+/- 3.728E+00 (83.69%)

RA-224	240.98	3.95*	1.987E+00	2.133E+02	2.133E+02	9.40	OK

Final Mean for 1 Valid Peaks = 2.133E+02+/- 2.006E+01 (9.40%)

RA-226	186.21	3.28*	2.308E+00	1.863E+02	1.863E+02	183.21	OK

Final Mean for 1 Valid Peaks = 1.863E+02+/- 3.413E+02 (183.21%)

PA-234M	1001.03	0.92*	6.658E-01	3.836E+01	3.836E+01	70.75	OK

Final Mean for 1 Valid Peaks = 3.836E+01+/- 2.714E+01 (70.75%)

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
TH-234	63.29	3.80*	2.884E+00	2.577E+01	2.577E+01	23.67	OK

Final Mean for 1 Valid Peaks = 2.577E+01+/- 6.100E+00 (23.67%)

Nuclide Type: ACTIVATION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
GA-67	93.31	35.70*	2.914E+00	3.508E+00	7.998E+02	351.84	OK
	208.95	2.24	2.166E+00	-----	Line Not Found	-----	Absent
	300.22	16.00	1.716E+00	4.812E+00	1.097E+03	353.13	<<WM Interf

Final Mean for 1 Valid Peaks = 7.998E+02+/- 2.814E+03 (351.84%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
NB-95M	235.69	25.00*	2.015E+00	2.782E+00	3.753E+02	21.34	OK

Final Mean for 1 Valid Peaks = 3.753E+02+/- 8.010E+01 (21.34%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
LA-140	328.77	20.50	1.608E+00	1.397E+00	5.579E+00	59.29	OK
	487.03	45.50	1.189E+00	7.597E-01	3.033E+00	51.99	OK
	815.85	23.50	7.833E-01	-----	Line Not Found	-----	Absent
	1596.49	95.49*	4.731E-01	3.081E-01	1.230E+00	70.56	OK

Final Mean for 3 Valid Peaks = 1.846E+00+/- 7.410E-01 (40.13%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
LU-173	100.72	5.24	2.881E+00	-----	Line Not Found	-----	Absent
	272.11	21.20*	1.836E+00	7.378E+00	7.644E+00	18.13	OK

Final Mean for 1 Valid Peaks = 7.644E+00+/- 1.386E+00 (18.13%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
AM-243	74.67	66.00*	2.939E+00	1.208E+01	1.208E+01	9.89	OK

Final Mean for 1 Valid Peaks = 1.208E+01+/- 1.195E+00 (9.89%)

Nuclide Type: FISSION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
CD-109	88.03	3.72*	2.931E+00	1.395E+01	1.449E+01	39.60	OK

Final Mean for 1 Valid Peaks = 1.449E+01+/- 5.738E+00 (39.60%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
SN-126	87.57	37.00*	2.932E+00	1.402E+00	1.402E+00	39.15	OK

Final Mean for 1 Valid Peaks = 1.402E+00+/- 5.487E-01 (39.15%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
CE-141	145.44	48.40*	2.589E+00	1.021E+00	1.761E+00	44.26	OK

Final Mean for 1 Valid Peaks = 1.761E+00+/- 7.793E-01 (44.26%)

Sample ID : 1201163-09 Acquisition date : 22-FEB-2012 12:32:42

Flag: "*" = Keyline

---- Identified Nuclides ----

Nuclide	Activity (pCi/gram)	Act error	MDA (pCi/gram)	MDA error	Act/MDA
K-40	1.962E+01	3.563E+00	2.545E+00	2.158E-01	7.710
GA-67	7.998E+02	2.814E+03	1.533E+02	5.387E+02	5.219
NB-95M	3.753E+02	8.010E+01	1.227E+02	1.005E+01	3.058
CD-109	1.449E+01	5.738E+00	7.359E+00	8.546E-01	1.969
SN-126	1.402E+00	5.487E-01	7.790E-01	7.743E-02	1.799
LA-140	1.846E+00	7.410E-01	1.081E+00	8.870E-02	1.708
CE-141	1.761E+00	7.793E-01	8.429E-01	1.942E-01	2.089
LU-173	7.644E+00	1.386E+00	1.108E+00	9.005E-02	6.898
PB-210	7.500E+01	7.697E+00	5.062E+00	3.907E-01	14.817
BI-212	1.208E+00	1.492E+00	1.931E+00	1.765E-01	0.626
PB-212	1.025E+00	3.832E-01	5.144E-01	4.212E-02	1.993
BI-214	1.123E+02	5.615E+00	4.751E-01	4.419E-02	236.382
PB-214	1.121E+02	7.302E+00	5.968E-01	4.936E-02	187.751
RN-219	5.469E+00	2.761E+00	3.654E+00	3.030E-01	1.496
RA-223	4.454E+00	3.728E+00	5.747E+00	4.739E-01	0.775
RA-224	2.133E+02	2.006E+01	5.847E+00	4.787E-01	36.483
RA-226	1.863E+02	3.413E+02	7.433E+00	1.361E+01	25.062
PA-234M	3.836E+01	2.714E+01	2.878E+01	2.333E+00	1.333
TH-234	2.577E+01	6.100E+00	6.800E+00	5.038E-01	3.789
AM-243	1.208E+01	1.195E+00	4.190E-01	3.566E-02	28.839

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
BE-7	1.189E-01		1.920E+00	2.967E+00	2.616E-01	0.040
NA-22	-3.060E-02		1.875E-01	2.745E-01	2.246E-02	-0.111
AL-26	-3.150E-02		1.040E-01	1.690E-01	1.350E-02	-0.186
TI-44	5.164E-01	+	1.991E-01	2.839E-01	2.224E-02	1.819
SC-46	-2.783E-02		1.958E-01	3.273E-01	2.619E-02	-0.085
V-48	1.105E-01		4.718E-01	7.929E-01	6.408E-02	0.139
CR-51	-2.166E-01		2.965E+00	4.260E+00	3.714E-01	-0.051
MN-54	1.738E-02		1.811E-01	2.734E-01	2.320E-02	0.064
CO-56	3.316E-02		2.138E-01	3.230E-01	2.710E-02	0.103
CO-57	-2.455E-02		1.654E-01	2.661E-01	2.569E-02	-0.092
CO-58	8.262E-03		2.071E-01	3.130E-01	2.719E-02	0.026
FE-59	-1.144E-01		4.566E-01	6.723E-01	5.995E-02	-0.170
CO-60	1.144E-01		1.607E-01	2.716E-01	2.220E-02	0.421
ZN-65	1.255E-01		3.873E-01	5.808E-01	4.760E-02	0.216
SE-75	-1.384E-01		3.473E-01	4.362E-01	3.582E-02	-0.317
RB-82	-4.934E-01		2.620E+00	3.598E+00	3.198E-01	-0.137
RB-83	1.330E-01		3.498E-01	5.753E-01	9.128E-02	0.231
KR-85	6.608E+01		3.345E+01	5.261E+01	4.738E+00	1.256
SR-85	3.779E-01		1.913E-01	3.009E-01	2.710E-02	1.256
Y-88	2.217E-01		1.463E-01	2.486E-01	1.975E-02	0.892
NB-93M	-4.316E+01		9.887E+00	2.059E-01	4.581E-02	-209.658
NB-94	1.036E-01		1.573E-01	2.673E-01	2.185E-02	0.388
NB-95	3.937E+00		4.879E-01	6.005E-01	5.378E-02	6.556

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
ZR-95	3.090E-02		3.251E-01	5.508E-01	5.420E-02	0.056
RU-103	-1.942E-01		2.210E-01	3.705E-01	5.317E-02	-0.524
RU-106	-1.063E+00		1.459E+00	2.177E+00	3.008E-01	-0.488
AG-108M	3.062E-01		2.176E-01	2.747E-01	2.516E-02	1.115
AG-110M	1.334E-02		1.556E-01	2.382E-01	2.224E-02	0.056
SN-113	2.728E-01		3.391E-01	4.286E-01	3.637E-02	0.636
TE123M	1.392E-01		2.249E-01	3.326E-01	2.754E-02	0.418
SB-124	1.890E-01		2.059E-01	3.201E-01	2.974E-02	0.590
I-125	-2.552E+00		2.770E+00	4.523E+00	4.104E-01	-0.564
SB-125	4.430E-01		4.944E-01	8.557E-01	7.411E-02	0.518
SB-126	2.473E+00	+	1.578E+00	1.940E+00	1.778E-01	1.275
SB-127	2.586E+01		3.620E+01	6.217E+01	5.772E+00	0.416
I-129	-4.889E-01		2.680E-01	4.277E-01	4.490E-02	-1.143
I-131	-5.689E-01		1.525E+00	2.362E+00	1.952E-01	-0.241
TE-132	-1.798E+00		3.844E+01	6.078E+01	4.975E+00	-0.030
BA-133	1.903E+00	+	4.831E-01	5.991E-01	7.774E-02	3.177
CS-134	2.635E-01		1.671E-01	2.608E-01	2.429E-02	1.010
CS-135	4.933E+00		1.038E+00	1.559E+00	1.269E-01	3.165
CS-136	3.699E-01		8.689E-01	1.311E+00	1.104E-01	0.282
CS-137	1.430E-01		1.485E-01	2.562E-01	2.396E-02	0.558
LA-138	-1.035E-01		2.505E-01	4.063E-01	3.338E-02	-0.255
CE-139	4.942E-02		2.105E-01	3.367E-01	2.691E-02	0.147
BA-140	2.129E+00		2.200E+00	3.612E+00	1.202E+00	0.590
CE-144	-4.108E-01		1.368E+00	2.192E+00	2.026E-01	-0.187
PM-144	1.569E-01		1.548E-01	2.407E-01	2.229E-02	0.652
PM-145	-1.050E+00		9.167E-01	9.921E-01	6.461E-01	-1.058
PM-146	3.975E-01		4.533E-01	5.723E-01	4.963E-02	0.695
ND-147	-3.128E+00		4.968E+00	8.395E+00	7.623E-01	-0.373
EU-152	1.871E+01	+	2.692E+00	3.121E+00	3.305E-01	5.994
GD-153	-6.644E-01		6.122E-01	9.754E-01	9.544E-02	-0.681
EU-154	-9.030E-02		5.208E-01	7.621E-01	6.237E-02	-0.118
EU-155	2.487E+00		7.692E-01	9.780E-01	9.599E-02	2.543
EU-156	-1.151E+00		4.895E+00	7.327E+00	1.675E+00	-0.157
HO-166M	4.791E-02		2.777E-01	4.238E-01	3.900E-02	0.113
HF-172	9.378E-02		1.226E+00	1.973E+00	1.877E-01	0.048
LU-172	7.011E-02		3.490E+00	5.814E+00	4.756E-01	0.012
HF-175	1.141E-01		2.795E-01	3.527E-01	2.917E-02	0.323
LU-176	1.327E-01		1.619E-01	2.358E-01	1.935E-02	0.563
TA-182	5.680E+01	+	5.428E+00	3.060E+00	2.505E-01	18.564
IR-192	7.006E-01		4.573E-01	5.849E-01	5.124E-02	1.198
HG-203	-1.638E-01		2.983E-01	4.272E-01	3.571E-02	-0.383
BI-207	2.050E-01	+	1.823E-01	2.342E-01	2.158E-02	0.875
TL-208	1.390E+00		5.164E-01	8.071E-01	7.464E-02	1.722
BI-210M	5.796E-01		3.992E-01	5.144E-01	4.196E-02	1.127
PB-211	9.386E+00	+	5.405E+00	8.904E+00	7.403E-01	1.054
RA-225	-1.093E+00		1.499E+00	2.266E+00	1.896E-01	-0.483
TH-227	6.053E+00	+	1.292E+00	2.209E+00	1.808E-01	2.741
AC-228	6.535E-01		6.003E-01	1.023E+00	8.130E-02	0.639

Sample ID : 1201163-09 Acquisition date : 22-FEB-2012 12:32:42

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
TH-230	1.317E+02	+	5.078E+01	7.234E+01	5.653E+00	1.821
PA-231	8.368E+00		8.025E+00	1.026E+01	8.406E-01	0.816
TH-231	1.798E+00		1.217E+00	2.010E+00	2.457E-01	0.894
PA-233	4.406E-01		7.688E-01	1.108E+00	2.471E-01	0.398
PA-234	2.804E-01		6.748E-01	1.087E+00	1.014E-01	0.258
U-235	4.686E+00	+	1.954E+00	2.334E+00	4.115E-01	2.008
NP-237	6.041E+00		1.868E+00	2.375E+00	2.331E-01	2.543
AM-241	1.113E+00		5.163E-01	6.915E-01	4.897E-02	1.610
CM-243	1.209E+00		1.138E+00	1.663E+00	1.348E-01	0.727

Sample ID : 1201163-09 Acquisition date : 22-FEB-2012 12:32:42

Total number of lines in spectrum	109	
Number of unidentified lines	66	
Number of lines tentatively identified by NID	43	39.45%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.962E+01	1.962E+01	0.356E+01	18.16	
PB-210	22.26Y	1.00	7.484E+01	7.500E+01	0.770E+01	10.26	
BI-212	1.41E+10Y	1.00	1.208E+00	1.208E+00	1.492E+00	123.47	
PB-212	1.41E+10Y	1.00	1.025E+00	1.025E+00	0.383E+00	37.38	
BI-214	1602.00Y	1.00	1.123E+02	1.123E+02	0.056E+02	5.00	
PB-214	1602.00Y	1.00	1.120E+02	1.121E+02	0.073E+02	6.52	
RN-219	3.28E+04Y	1.00	5.469E+00	5.469E+00	2.761E+00	50.48	
RA-223	3.28E+04Y	1.00	4.454E+00	4.454E+00	3.728E+00	83.69	
RA-224	1.41E+10Y	1.00	2.133E+02	2.133E+02	0.201E+02	9.40	
RA-226	1602.00Y	1.00	1.863E+02	1.863E+02	3.413E+02	183.21	
PA-234M	4.47E+09Y	1.00	3.836E+01	3.836E+01	2.714E+01	70.75	
TH-234	4.47E+09Y	1.00	2.577E+01	2.577E+01	0.610E+01	23.67	
			---------	---------			
	Total Activity :		7.947E+02	7.949E+02			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
GA-67	3.26D	228.	3.508E+00	7.998E+02	28.14E+02	351.84	
NB-95M	3.61D	135.	2.782E+00	3.753E+02	0.801E+02	21.34	
LA-140	12.79D	3.99	4.625E-01	1.846E+00	0.741E+00	40.13	
LU-173	1.37Y	1.04	7.378E+00	7.644E+00	1.386E+00	18.13	
AM-243	7380.00Y	1.00	1.208E+01	1.208E+01	0.120E+01	9.89	
			---------	---------			
	Total Activity :		2.621E+01	1.197E+03			

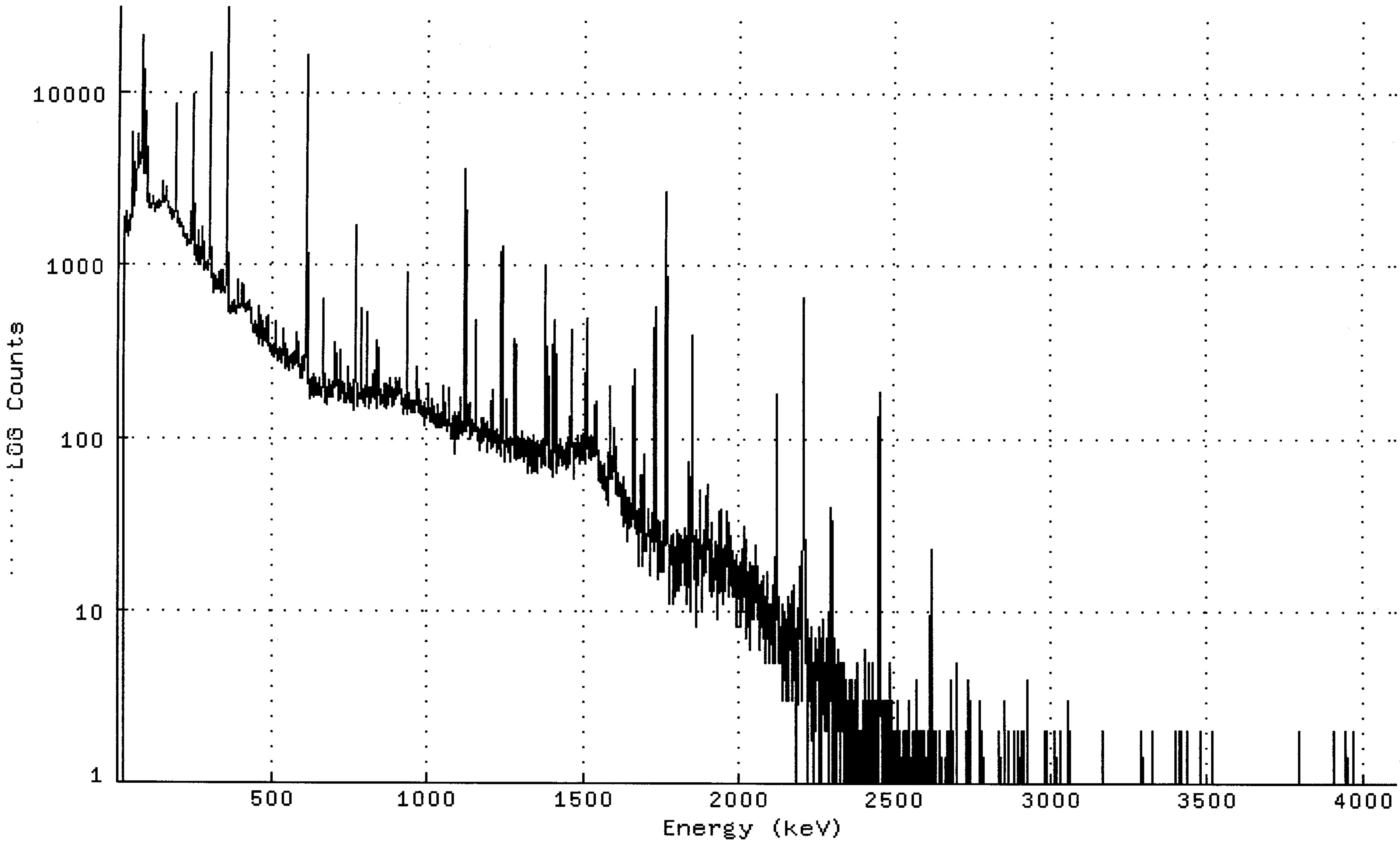
Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CD-109	464.00D	1.04	1.395E+01	1.449E+01	0.574E+01	39.60	
SN-126	1.00E+05Y	1.00	1.402E+00	1.402E+00	0.549E+00	39.15	
CE-141	32.50D	1.72	1.021E+00	1.761E+00	0.779E+00	44.26	
			---------	---------			
	Total Activity :		1.637E+01	1.765E+01			

Grand Total Activity : 8.373E+02 2.009E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Spectrum : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116309_GE1_GAS1102_176256.CNF;1
Title :
Sample Title: JM-66-31-120128
Start Time: 22-FEB-2012 12:32 Sample Time: 28-JAN-2012 00:00 Energy Offset: 3.84457E-01
Real Time : 0 01:00:30.59 Sample ID : 1201163-09 Energy Slope : 9.99792E-01
Live Time : 0 01:00:00.00 Sample Type: SOLID Energy Quad : 0.00000E+00



Channel Contents for DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116309_GE1_GAS1102_1762

Channel

1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	9	1325	1656	1564	1784	2012	1798
25:	1619	1542	1709	1593	1445	1510	1598	1778
33:	1637	1599	1569	1687	1764	1652	1757	1900
41:	1886	1934	2114	2171	2491	5851	5000	2151
49:	2412	2892	2418	2746	3854	3100	2642	2760
57:	2862	3069	3424	3548	3731	4006	5609	4441
65:	3849	3788	4217	4412	3895	4085	4116	4060
73:	4623	8210	13840	8355	20756	8721	4751	4206
81:	4542	3340	3866	5430	3305	3662	7666	5492
89:	3552	4729	3070	4003	4784	3186	3076	2255
97:	2298	2502	2293	2212	2133	2138	2194	2093
105:	2148	2202	2138	2182	2298	2252	2301	2324
113:	2481	2233	2232	2185	2222	1991	2188	2165
121:	2103	2252	2183	2180	2225	2305	2146	2242
129:	2294	2184	2328	2136	2223	2231	2203	2148
137:	2309	2301	2168	2298	2329	2284	2377	2977
145:	2576	2285	2275	2292	2399	2369	2435	2327
153:	2434	2805	2554	2331	2352	2211	2224	2143
161:	2107	2148	2182	2119	2088	2002	2066	1949
169:	1991	1969	1965	1872	2047	1894	1840	1888
177:	1894	1979	1902	1916	1980	2020	1999	2113
185:	3034	8437	5076	2080	1964	1924	1892	1850
193:	1719	1744	1763	1806	1797	1751	1665	1718
201:	1741	1666	1724	1630	1721	1641	1637	1510
209:	1567	1450	1628	1551	1418	1498	1435	1407
217:	1428	1450	1372	1440	1374	1362	1295	1476
225:	1372	1380	1320	1386	1328	1348	1336	1314
233:	1302	1311	1442	1988	1507	1391	1626	1392
241:	3131	9704	3911	1298	1231	1214	1141	1117
249:	1120	1089	1080	1052	1108	1038	1196	1385
257:	1256	1214	1580	1223	1004	1016	1038	1039
265:	990	1004	1007	1046	1499	1651	1456	1419
273:	1061	1177	1340	1019	930	964	925	950
281:	957	966	983	1014	1003	1006	986	940
289:	942	917	915	989	1135	3075	16909	11148
297:	1419	1103	1170	1240	877	833	889	859
305:	879	825	677	744	761	759	760	731
313:	781	847	773	722	711	765	735	722
321:	710	734	736	898	760	717	737	773
329:	794	912	787	674	754	822	785	738
337:	707	912	849	701	718	681	722	722
345:	700	710	705	769	970	1334	9242	31344
353:	10577	1253	1061	1145	766	584	545	525
361:	550	559	515	545	573	535	533	538
369:	539	603	550	582	615	560	565	546
377:	530	586	553	553	559	539	542	513
385:	578	622	768	722	819	610	554	581
393:	573	581	577	555	572	572	600	587
401:	670	778	654	610	749	703	589	553
409:	642	536	575	564	593	560	576	561
417:	551	593	575	595	548	613	592	540
425:	566	594	591	540	557	510	501	503

433:	471	420	446	435	397	444	444	439
441:	454	407	401	443	466	463	436	429
449:	386	397	403	398	353	402	565	430
457:	346	373	385	388	448	503	440	386
465:	357	338	393	355	396	465	382	359
473:	375	405	402	371	352	364	358	437
481:	495	366	334	342	335	387	498	424
489:	345	329	333	324	343	331	314	315
497:	305	321	299	334	322	331	339	318
505:	343	310	289	307	400	458	465	419
513:	355	291	314	279	296	276	302	331
521:	297	301	315	321	291	265	297	297
529:	270	320	311	267	346	418	317	302
537:	327	298	322	276	284	251	299	341
545:	296	276	301	309	255	287	264	293
553:	278	264	245	290	281	278	297	286
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601:	283	267	242	292	296	292	508	2500
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2497:	2	1	1	1	0	0	2	0
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3665:	0	0	0	0	0	0	0	0
3673:	0	0	0	0	0	0	0	0
3681:	0	0	0	0	0	0	0	0
3689:	0	0	0	0	0	0	0	0
3697:	0	1	0	0	1	0	0	0
3705:	0	1	0	0	0	0	1	0
3713:	0	0	0	0	1	0	1	0
3721:	1	0	0	0	0	0	0	0
3729:	0	0	0	0	0	0	1	0
3737:	0	0	0	0	0	0	0	0
3745:	0	0	0	0	0	0	0	0
3753:	1	0	1	0	0	1	1	0
3761:	1	0	0	0	0	0	1	0
3769:	0	0	0	0	1	0	0	0
3777:	0	0	0	0	0	0	0	1
3785:	0	0	1	0	0	0	2	0

3793:	0	1	0	0	0	1	0	0
3801:	0	0	1	0	0	0	0	0
3809:	1	1	0	1	0	1	0	0
3817:	0	0	0	0	0	0	0	0
3825:	0	0	0	0	0	1	1	0
3833:	0	0	0	0	0	0	0	0
3841:	1	1	0	1	0	0	1	0
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	1	0	0	0	0
3865:	0	0	0	0	0	0	0	0
3873:	0	0	0	0	0	0	0	0
3881:	0	0	0	0	0	0	0	0
3889:	0	0	0	1	0	1	0	0
3897:	0	2	0	0	0	0	0	0
3905:	0	0	0	0	0	0	0	0
3913:	0	0	0	1	0	0	1	0
3921:	0	0	0	0	0	0	0	0
3929:	0	0	0	0	0	0	1	0
3937:	0	0	2	0	0	1	0	0
3945:	0	0	0	0	0	0	1	0
3953:	0	1	0	0	0	0	0	0
3961:	0	2	0	1	0	0	0	0
3969:	0	0	0	0	0	0	0	0
3977:	0	0	0	0	0	0	0	0
3985:	0	1	0	0	1	0	0	0
3993:	0	0	0	0	0	0	0	0
4001:	0	0	0	0	0	0	0	0
4009:	0	0	0	0	0	0	0	0
4017:	0	0	0	0	0	0	0	0
4025:	0	1	0	0	0	1	0	0
4033:	0	0	0	0	0	1	0	0
4041:	0	0	0	0	1	1	0	0
4049:	0	0	0	0	0	1	0	0
4057:	0	0	0	0	0	0	0	0
4065:	0	1	0	0	0	1	0	0
4073:	0	0	0	0	0	1	1	0
4081:	0	0	0	1	0	0	0	0
4089:	0	0	0	0	0	0	0	0

KB
2/22/12

Sample ID : 1201163-10 Acquisition date : 22-FEB-2012 12:37:57

VAX/VMS Peak Search Report Generated 22-FEB-2012 13:40:01.38

Configuration : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116310_GE3_GAS1102_176259.
Analyses by : PEAK V16.9 ENBACK V1.6 PEAKEFF V2.2
Client ID : JM-73-31-120128
Deposition Date :
Sample Date : 28-JAN-2012 00:00:00 Acquisition date : 22-FEB-2012 12:37:57
Sample ID : 1201163-10 Sample Quantity : 5.33010E+02 gram
Sample type : SOLID Sample Geometry : 0
Detector name : GE3 Detector Geometry: GAS-1102
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:01:50.35 3.0%
Start channel : 5 End channel : 4096
Sensitivity : 2.40000 Gaussian : 15.00000
Critical level : Yes

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	26.75	385	9024	2.71	27.03	25	5	74.8		
0	31.84	301	7291	1.60	32.12	31	4	81.1		
0	46.33*	5497	15065	1.20	46.61	44	6	7.5		PB-210
0	53.32	1695	14662	1.77	53.60	51	5	22.0		
0	63.28*	4103	21322	1.72	63.56	62	5	11.1		TH-234
1	67.76	1375	8623	1.34	68.04	67	16	17.1	3.36E+03	
1	70.84	661	17009	1.34	71.12	67	16	56.3		
1	74.84	20109	16547	1.35	75.12	67	16	2.3		AM-243
0	86.40	2767	19885	1.57	86.68	86	4	14.3		NP-237
										SN-126
0	93.44*	4709	20916	1.06	93.73	91	6	10.3		
0	112.42*	312	12637	1.01	112.71	111	5	108.9		
0	121.59	394	12014	1.62	121.88	121	5	84.1		CO-57
0	144.06	1224	15631	1.48	144.35	142	6	32.8		U-235
										CE-141
0	154.60	751	13133	1.78	154.89	153	5	46.4		
0	163.96	477	11404	1.32	164.25	163	5	67.9		U-235
0	186.21*	12330	17086	1.90	186.50	183	8	4.1		RA-226
3	235.67	1496	8415	1.92	235.97	233	14	19.7	1.55E+01	NB-95M
3	242.06	13813	5263	1.32	242.35	233	14	2.3		RA-224
0	257.80	1700	8919	1.42	258.10	254	8	19.9		
7	270.29	2288	9668	2.87	270.58	266	12	16.0	1.11E+01	
7	274.70	607	4243	1.40	275.00	266	12	31.7		
0	295.29*	29801	8278	1.84	295.58	291	8	1.6		PB-214
0	313.27	206	4931	1.95	313.57	312	6	108.9		PA-233
0	329.30	286	3998	1.51	329.60	328	5	67.5		
2	351.98*	50136	2867	1.44	352.28	347	13	0.9	3.16E+00	PB-214
2	355.37	698	3818	1.87	355.67	347	13	47.9		
0	388.19	743	6142	3.24	388.49	384	10	40.1		
2	401.87	438	3809	1.92	402.18	397	12	45.6	1.31E+00	RN-219
2	405.36	394	3806	1.88	405.67	397	12	50.8		PB-211
0	427.78	259	3372	1.53	428.08	426	6	72.5		
0	454.55	222	3124	1.44	454.85	452	7	84.9		
0	462.15	298	2908	1.95	462.46	459	7	61.2		
0	473.94	154	1931	2.15	474.25	473	5	87.3		
0	480.33	443	2589	2.02	480.63	478	7	39.2		

AG
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Sample ID : 1201163-10 Acquisition date : 22-FEB-2012 12:37:57

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	486.76*	376	2914	2.10	487.07	485	8	50.8		
0	510.85*	552	2921	3.41	511.16	507	9	36.5		
0	533.40	116	1651	1.39	533.71	531	5	106.1		
0	561.95	151	1732	3.54	562.26	560	6	89.0		
0	573.72	145	1664	3.14	574.03	572	6	90.6		
0	581.14	439	2438	2.10	581.46	577	9	41.7		
4	609.36*	35302	1288	1.57	609.68	606	15	1.1	3.40E+00	BI-214
4	612.31	585	1805	2.54	612.63	606	15	69.2		
0	665.63	987	1601	1.75	665.95	662	8	15.5		
0	703.25	249	1246	1.83	703.57	700	6	46.6		
0	719.77	251	1375	1.33	720.09	717	7	50.5		
0	742.21	184	1499	2.28	742.53	739	8	74.1		
0	753.47	160	1473	3.73	753.79	750	8	84.6		
0	768.16*	3489	2085	1.88	768.49	762	12	6.2		
0	785.86	920	1515	2.01	786.18	782	9	16.6		
0	806.18	746	1669	2.03	806.50	803	9	21.0		
0	821.25	103	870	2.44	821.58	820	5	88.4		
10	832.09	214	1431	3.26	832.42	829	14	62.7	2.21E+00	PB-211
10	839.04	404	918	1.81	839.37	829	14	24.5		
0	910.50	186	1598	2.72	910.83	907	9	79.4		
0	933.97	1552	1468	2.01	934.30	930	9	10.2		
0	940.80	93	936	3.60	941.13	939	6	106.1		
0	963.44*	222	1421	1.97	963.78	960	9	62.6		
0	1000.83*	341	1437	2.20	1001.17	996	10	43.1		PA-234M
0	1052.13	187	883	2.09	1052.47	1049	7	54.7		
0	1070.92	173	1077	1.74	1071.26	1067	9	70.2		
0	1102.10	77	750	2.92	1102.45	1100	6	113.9		
0	1120.33	7138	1564	2.07	1120.68	1115	12	3.2		BI-214
0	1133.70	167	739	2.15	1134.05	1131	7	56.4		
0	1155.24	793	940	2.11	1155.59	1151	8	15.2		
0	1208.15	205	793	2.65	1208.51	1205	8	49.6		
0	1238.13*	2669	1025	2.21	1238.49	1234	10	5.9		
0	1253.75	221	893	2.69	1254.11	1249	10	52.4		
0	1280.96	585	812	2.24	1281.32	1276	9	19.4		
0	1337.87	88	662	4.95	1338.23	1333	9	107.1		
2	1377.67	1956	493	2.23	1378.03	1371	20	5.9	2.45E+00	
2	1385.40	399	582	2.57	1385.77	1371	20	23.3		
2	1401.53	564	566	2.43	1401.89	1397	17	16.4	9.75E-01	
2	1407.96	903	513	1.97	1408.32	1397	17	10.3		
0	1460.81*	544	839	1.91	1461.18	1457	10	21.7		K-40
0	1509.11	869	1024	2.30	1509.48	1504	11	15.8		
0	1540.34	513	1172	6.88	1540.71	1533	15	30.5		
0	1583.23	228	555	2.15	1583.60	1579	9	39.4		
1	1594.40	120	376	2.43	1594.78	1590	16	56.8	1.29E+00	
1	1599.79	145	363	2.43	1600.17	1590	16	47.5		
0	1660.75	512	420	2.42	1661.13	1654	14	19.1		
0	1683.78	99	234	2.62	1684.16	1680	9	59.6		
0	1692.39	119	255	2.90	1692.77	1689	9	51.6		
0	1729.73	1253	293	2.29	1730.11	1725	11	7.8		
0	1764.56*	5770	339	2.42	1764.94	1759	13	2.9		BI-214
0	1847.44	742	214	2.30	1847.83	1844	9	10.2		

Sample ID : 1201163-10 Acquisition date : 22-FEB-2012 12:37:57

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw %Err	Fit	Nuclides
0	1890.56	26	101	1.80	1890.95	1889	5120.3		
0	1937.01	91	174	3.03	1937.40	1934	9 56.4		
0	2053.01	30	66	1.33	2053.42	2050	7 96.6		
0	2089.81	36	91	3.10	2090.21	2084	11108.2		
0	2118.69	416	61	2.60	2119.10	2115	10 12.0		
0	2163.92	23	46	7.04	2164.33	2161	9122.6		
0	2173.53	14	26	2.92	2173.94	2171	6126.4		
9	2204.17	1472	53	2.67	2204.58	2198	15 5.5	1.88E+00	BI-214
9	2208.57	25	48	2.99	2208.98	2198	15298.9		
0	2245.94	10	10	0.90	2246.35	2244	6120.5		
0	2294.01	98	21	2.48	2294.42	2287	14 28.3		
0	2354.37	12	9	6.78	2354.79	2348	12112.6		
0	2421.05	17	0	3.33	2421.47	2416	10 48.5		
0	2447.72	436	7	2.59	2448.15	2442	13 9.9		
0	2615.39*	28	11	2.26	2615.83	2611	9 59.3		
0	2694.56	10	0	1.77	2695.00	2691	7 63.2		
0	2978.31	5	1	1.89	2978.77	2974	7129.0		
0	3054.11	7	0	1.00	3054.57	3049	9 75.6		

Sample ID : 1201163-10 Acquisition date : 22-FEB-2012 12:37:57

Total number of lines in spectrum	103	
Number of unidentified lines	58	
Number of lines tentatively identified by NID	45	43.69%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.929E+01	1.929E+01	0.461E+01	23.91	
PB-210	22.26Y	1.00	7.661E+01	7.678E+01	0.889E+01	11.58	
PB-211	3.28E+04Y	1.00	1.692E+01	1.692E+01	0.683E+01	40.34	
BI-214	1602.00Y	1.00	1.455E+02	1.455E+02	0.080E+02	5.51	
PB-214	1602.00Y	1.00	1.462E+02	1.462E+02	0.341E+02	23.31	
RN-219	3.28E+04Y	1.00	8.188E+00	8.188E+00	3.846E+00	46.97	
RA-224	1.41E+10Y	1.00	2.816E+02	2.816E+02	0.929E+02	33.00	
RA-226	1602.00Y	1.00	2.553E+02	2.553E+02	4.687E+02	183.58	
PA-233	27.00D	1.93	5.239E-01	1.009E+00	1.190E+00	117.94	
PA-234M	4.47E+09Y	1.00	1.026E+02	1.026E+02	0.457E+02	44.59	
TH-234	4.47E+09Y	1.00	5.700E+01	5.700E+01	0.796E+01	13.97	
U-235	7.04E+08Y	1.00	6.399E+00	6.399E+00	4.523E+00	70.68	
			---------	---------			
	Total Activity :		1.116E+03	1.117E+03			

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-57	270.90D	1.07	2.560E-01	2.733E-01	2.318E-01	84.81	
SN-126	1.00E+05Y	1.00	3.868E+00	3.868E+00	0.699E+00	18.06	
CE-141	32.50D	1.72	1.507E+00	2.599E+00	1.050E+00	40.41	
NP-237	2.14E+06Y	1.00	1.135E+01	1.135E+01	0.204E+01	17.98	
			---------	---------			
	Total Activity :		1.698E+01	1.809E+01			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
NB-95M	3.61D	135.	4.743E+00	6.403E+02	2.349E+02	36.68	
AM-243	7380.00Y	1.00	1.573E+01	1.573E+01	0.154E+01	9.79	
			---------	---------			
	Total Activity :		2.047E+01	6.560E+02			

Grand Total Activity : 1.154E+03 1.791E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
K-40	1460.81	10.67*	3.724E-01	1.929E+01	1.929E+01	23.91	OK
	Final Mean for 1 Valid Peaks = 1.929E+01+/- 4.611E+00 (23.91%)						
PB-210	46.50	4.25*	2.378E+00	7.661E+01	7.678E+01	11.58	OK
	Final Mean for 1 Valid Peaks = 7.678E+01+/- 8.895E+00 (11.58%)						
PB-211	404.84	2.90*	1.151E+00	1.664E+01	1.664E+01	52.04	OK
	831.96	2.90	5.990E-01	1.738E+01	1.738E+01	63.83	OK
	Final Mean for 2 Valid Peaks = 1.692E+01+/- 6.825E+00 (40.34%)						
BI-214	609.31	46.30*	7.958E-01	1.349E+02	1.350E+02	10.82	OK
	1120.29	15.10	4.615E-01	1.443E+02	1.443E+02	10.70	OK
	1764.49	15.80	3.245E-01	1.585E+02	1.585E+02	10.42	OK
	2204.22	4.98	2.817E-01	1.478E+02	1.478E+02	12.28	OK
	Final Mean for 4 Valid Peaks = 1.455E+02+/- 8.012E+00 (5.51%)						
PB-214	295.21	19.19	1.499E+00	1.459E+02	1.459E+02	45.00	OK
	351.92	37.19*	1.298E+00	1.463E+02	1.463E+02	27.24	OK
	Final Mean for 2 Valid Peaks = 1.462E+02+/- 3.407E+01 (23.31%)						
RN-219	401.80	6.50*	1.158E+00	8.188E+00	8.188E+00	46.97	OK
	Final Mean for 1 Valid Peaks = 8.188E+00+/- 3.846E+00 (46.97%)						
RA-224	240.98	3.95*	1.749E+00	2.816E+02	2.816E+02	33.00	OK
	Final Mean for 1 Valid Peaks = 2.816E+02+/- 9.294E+01 (33.00%)						
RA-226	186.21	3.28*	2.074E+00	2.553E+02	2.553E+02	183.58	OK
	Final Mean for 1 Valid Peaks = 2.553E+02+/- 4.687E+02 (183.58%)						
PA-233	311.98	38.60*	1.434E+00	5.239E-01	1.009E+00	117.94	OK
	Final Mean for 1 Valid Peaks = 1.009E+00+/- 1.190E+00 (117.94%)						
PA-234M	1001.03	0.92*	5.083E-01	1.026E+02	1.026E+02	44.59	OK
	Final Mean for 1 Valid Peaks = 1.026E+02+/- 4.573E+01 (44.59%)						
TH-234	63.29	3.80*	2.668E+00	5.700E+01	5.700E+01	13.97	OK
	Final Mean for 1 Valid Peaks = 5.700E+01+/- 7.963E+00 (13.97%)						

Sample ID : 1201163-10 Acquisition date : 22-FEB-2012 12:37:57

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
U-235	143.76	10.50*	2.377E+00	6.911E+00	6.911E+00	37.59	<<WM Interf
	163.35	4.70	2.233E+00	6.399E+00	6.399E+00	70.68	OK
	205.31	4.70	1.952E+00	-----	Line Not Found	-----	Absent

Final Mean for 1 Valid Peaks = 6.399E+00+/- 4.523E+00 (70.68%)

Nuclide Type: FISSION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
CO-57	122.06	85.51*	2.535E+00	2.560E-01	2.733E-01	84.81	OK
	136.48	10.60	2.431E+00	-----	Line Not Found	-----	Absent

Final Mean for 1 Valid Peaks = 2.733E-01+/- 2.318E-01 (84.81%)

SN-126	87.57	37.00*	2.723E+00	3.868E+00	3.868E+00	18.06	OK

Final Mean for 1 Valid Peaks = 3.868E+00+/- 6.987E-01 (18.06%)

CE-141	145.44	48.40*	2.364E+00	1.507E+00	2.599E+00	40.41	OK

Final Mean for 1 Valid Peaks = 2.599E+00+/- 1.050E+00 (40.41%)

NP-237	86.50	12.60*	2.726E+00	1.135E+01	1.135E+01	17.98	OK

Final Mean for 1 Valid Peaks = 1.135E+01+/- 2.041E+00 (17.98%)

Nuclide Type: ACTIVATION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
NB-95M	235.69	25.00*	1.777E+00	4.743E+00	6.403E+02	36.68	OK

Final Mean for 1 Valid Peaks = 6.403E+02+/- 2.349E+02 (36.68%)

AM-243	74.67	66.00*	2.729E+00	1.573E+01	1.573E+01	9.79	OK

Final Mean for 1 Valid Peaks = 1.573E+01+/- 1.540E+00 (9.79%)

Flag: "*" = Keyline

---- Identified Nuclides ----

Nuclide	Activity (pCi/gram)	Act error	MDA (pCi/gram)	MDA error	Act/MDA
K-40	1.929E+01	4.611E+00	3.934E+00	3.645E-01	4.903
CO-57	2.733E-01	2.318E-01	3.147E-01	3.127E-02	0.869
NB-95M	6.403E+02	2.349E+02	1.544E+02	4.736E+01	4.147
SN-126	3.868E+00	6.987E-01	8.756E-01	8.948E-02	4.418
CE-141	2.599E+00	1.050E+00	1.019E+00	2.370E-01	2.551
PB-210	7.678E+01	8.895E+00	6.053E+00	4.739E-01	12.684
PB-211	1.692E+01	6.825E+00	1.090E+01	1.147E+00	1.553
BI-214	1.455E+02	8.012E+00	6.629E-01	6.625E-02	219.514
PB-214	1.462E+02	3.407E+01	7.918E-01	2.133E-01	184.591
RN-219	8.188E+00	3.846E+00	4.826E+00	5.071E-01	1.697
RA-224	2.816E+02	9.294E+01	7.367E+00	2.407E+00	38.227
RA-226	2.553E+02	4.687E+02	9.032E+00	1.657E+01	28.264
PA-233	1.009E+00	1.190E+00	1.402E+00	6.338E-01	0.720
PA-234M	1.026E+02	4.573E+01	4.158E+01	4.495E+00	2.467
TH-234	5.700E+01	7.963E+00	7.990E+00	5.943E-01	7.133
U-235	6.399E+00	4.523E+00	2.693E+00	4.825E-01	2.376
NP-237	1.135E+01	2.041E+00	2.659E+00	2.680E-01	4.268
AM-243	1.573E+01	1.540E+00	4.832E-01	4.177E-02	32.549

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
BE-7	3.354E+00		3.091E+00	4.008E+00	4.289E-01	0.837
NA-22	-2.676E-02		2.627E-01	3.896E-01	3.412E-02	-0.069
AL-26	7.563E-03		1.460E-01	2.445E-01	2.234E-02	0.031
TI-44	7.597E-01	+	1.462E-01	3.362E-01	2.657E-02	2.259
SC-46	-1.746E-01		2.895E-01	4.835E-01	5.585E-02	-0.361
V-48	1.619E-01		6.905E-01	1.172E+00	1.286E-01	0.138
CR-51	-3.844E+00		4.056E+00	5.506E+00	2.085E+00	-0.698
MN-54	1.741E-01		2.318E-01	3.989E-01	4.413E-02	0.436
CO-56	7.554E-02		2.997E-01	4.607E-01	5.147E-02	0.164
CO-58	-3.351E-02		3.010E-01	4.595E-01	4.989E-02	-0.073
FE-59	5.336E-01		6.747E-01	1.037E+00	1.068E-01	0.514
CO-60	-7.897E-02		2.352E-01	3.901E-01	3.349E-02	-0.202
ZN-65	1.418E+00		5.976E-01	9.361E-01	8.852E-02	1.515
GA-67	1.568E+03	+	5.515E+03	2.094E+02	7.362E+02	7.488
SE-75	6.850E-02		4.184E-01	5.484E-01	2.319E-01	0.125
RB-82	3.490E+00		4.105E+00	5.188E+00	5.454E-01	0.673
RB-83	-5.281E-02		4.639E-01	7.714E-01	1.297E-01	-0.068
KR-85	8.013E+01		4.390E+01	6.998E+01	7.446E+00	1.145
SR-85	4.583E-01		2.511E-01	4.002E-01	4.259E-02	1.145
Y-88	4.296E-01		2.124E-01	3.819E-01	3.483E-02	1.125
NB-93M	1.493E+01		6.468E+00	8.949E+00	2.397E+00	1.668
NB-94	1.481E-01		2.246E-01	3.852E-01	4.388E-02	0.384
NB-95	7.148E+00		9.179E-01	9.327E-01	9.710E-02	7.664
ZR-95	2.080E-01		6.331E-01	7.866E-01	8.698E-02	0.264
RU-103	-2.457E-01		3.252E-01	5.007E-01	7.762E-02	-0.491

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
RU-106	7.208E-01		1.975E+00	3.101E+00	4.399E-01	0.232
AG-108M	9.233E-02		2.343E-01	3.648E-01	3.640E-02	0.253
CD-109	7.495E+01		1.123E+01	1.027E+01	1.218E+00	7.297
AG-110M	1.204E-02		2.160E-01	3.360E-01	3.156E-02	0.036
SN-113	3.017E-01		3.818E-01	5.640E-01	6.020E-02	0.535
TE123M	4.289E-01		2.992E-01	4.046E-01	3.653E-02	1.060
SB-124	2.415E-02		2.813E-01	4.389E-01	4.417E-02	0.055
I-125	1.546E+00		3.524E+00	5.651E+00	5.338E-01	0.274
SB-125	1.153E+00	+	8.456E-01	1.144E+00	1.231E-01	1.008
SB-126	4.019E+00	+	2.074E+00	2.737E+00	2.724E-01	1.469
SB-127	-1.445E+01		4.970E+01	8.504E+01	8.153E+00	-0.170
I-129	1.740E-01		3.803E-01	5.448E-01	6.099E-02	0.319
I-131	-8.497E-01		1.967E+00	3.105E+00	6.858E-01	-0.274
TE-132	-3.623E+00		5.022E+01	7.534E+01	2.103E+01	-0.048
BA-133	1.281E+00	+	7.079E-01	5.443E-01	1.485E-01	2.354
CS-134	2.655E-01		2.209E-01	3.498E-01	3.519E-02	0.759
CS-135	6.145E+00		2.942E+00	1.972E+00	8.640E-01	3.116
CS-136	5.029E-01		1.219E+00	1.860E+00	1.957E-01	0.270
CS-137	1.890E-01		2.296E-01	3.624E-01	3.390E-02	0.521
LA-138	1.260E-01		3.848E-01	6.428E-01	5.784E-02	0.196
CE-139	3.237E-01		2.678E-01	4.093E-01	3.616E-02	0.791
BA-140	1.530E+00		3.128E+00	4.883E+00	1.645E+00	0.313
LA-140	2.464E+00		1.130E+00	1.874E+00	1.715E-01	1.315
CE-144	-1.190E+00		1.595E+00	2.622E+00	2.535E-01	-0.454
PM-144	5.670E-02		2.100E-01	3.271E-01	3.177E-02	0.173
PM-145	-6.839E-01		8.995E-01	1.237E+00	8.060E-01	-0.553
PM-146	7.582E-01	+	6.496E-01	7.931E-01	8.476E-02	0.956
ND-147	5.720E+00		7.322E+00	1.162E+01	1.229E+00	0.492
EU-152	2.231E+01	+	3.510E+00	4.450E+00	4.975E-01	5.013
GD-153	-5.413E-01		7.012E-01	1.162E+00	1.169E-01	-0.466
EU-154	-7.609E-02		7.297E-01	1.082E+00	9.478E-02	-0.070
EU-155	4.673E+00	+	8.404E-01	1.169E+00	1.178E-01	3.997
EU-156	-9.882E-01		7.234E+00	1.103E+01	2.622E+00	-0.090
HO-166M	-2.431E-01		3.897E-01	5.908E-01	5.827E-02	-0.412
HF-172	-2.029E+00		1.543E+00	2.323E+00	2.287E-01	-0.873
LU-172	-1.650E+00		5.366E+00	8.517E+00	8.299E-01	-0.194
LU-173	5.443E+00		2.653E+00	1.578E+00	7.181E-01	3.450
HF-175	-1.963E-01		3.269E-01	4.689E-01	1.408E-01	-0.419
LU-176	-3.564E-01		2.414E-01	2.981E-01	1.242E-01	-1.196
TA-182	7.292E+01	+	7.795E+00	4.238E+00	3.969E-01	17.209
IR-192	2.661E-01		6.123E-01	7.847E-01	8.397E-02	0.339
HG-203	-4.548E-02		3.709E-01	5.501E-01	2.680E-01	-0.083
BI-207	-5.981E-04		2.496E-01	3.122E-01	3.232E-02	-0.002
TL-208	1.144E+00		6.699E-01	1.065E+00	1.091E-01	1.074
BI-210M	2.319E-01		4.849E-01	6.284E-01	2.586E-01	0.369
BI-212	1.111E+00		1.764E+00	2.762E+00	2.768E-01	0.402
PB-212	1.803E+00		7.112E-01	7.006E-01	2.227E-01	2.573
RA-223	8.183E+00		5.863E+00	7.622E+00	2.788E+00	1.074

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
RA-225	1.223E+00		1.735E+00	2.778E+00	2.389E-01	0.440
TH-227	1.032E+01	+	3.795E+00	2.753E+00	8.478E-01	3.748
AC-228	1.709E+00	+	1.372E+00	1.491E+00	1.721E-01	1.146
TH-230	1.938E+02	+	3.727E+01	8.571E+01	6.754E+00	2.261
PA-231	-2.378E+00		8.142E+00	1.294E+01	5.542E+00	-0.184
TH-231	2.649E+00	+	2.016E+00	2.574E+00	3.438E-01	1.029
PA-234	3.624E-01		7.840E-01	1.303E+00	1.266E-01	0.278
AM-241	2.446E+00		5.421E-01	8.212E-01	5.815E-02	2.978
CM-243	6.923E-02		1.397E+00	2.080E+00	9.976E-01	0.033

Sample ID : 1201163-10 Acquisition date : 22-FEB-2012 12:37:57

Total number of lines in spectrum	103	
Number of unidentified lines	58	
Number of lines tentatively identified by NID	45	43.69%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.929E+01	1.929E+01	0.461E+01	23.91	
PB-210	22.26Y	1.00	7.661E+01	7.678E+01	0.889E+01	11.58	
PB-211	3.28E+04Y	1.00	1.692E+01	1.692E+01	0.683E+01	40.34	
BI-214	1602.00Y	1.00	1.455E+02	1.455E+02	0.080E+02	5.51	
PB-214	1602.00Y	1.00	1.462E+02	1.462E+02	0.341E+02	23.31	
RN-219	3.28E+04Y	1.00	8.188E+00	8.188E+00	3.846E+00	46.97	
RA-224	1.41E+10Y	1.00	2.816E+02	2.816E+02	0.929E+02	33.00	
RA-226	1602.00Y	1.00	2.553E+02	2.553E+02	4.687E+02	183.58	
PA-233	27.00D	1.93	5.239E-01	1.009E+00	1.190E+00	117.94	
PA-234M	4.47E+09Y	1.00	1.026E+02	1.026E+02	0.457E+02	44.59	
TH-234	4.47E+09Y	1.00	5.700E+01	5.700E+01	0.796E+01	13.97	
U-235	7.04E+08Y	1.00	6.399E+00	6.399E+00	4.523E+00	70.68	
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	Total Activity :		1.116E+03	1.117E+03			

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-57	270.90D	1.07	2.560E-01	2.733E-01	2.318E-01	84.81	
SN-126	1.00E+05Y	1.00	3.868E+00	3.868E+00	0.699E+00	18.06	
CE-141	32.50D	1.72	1.507E+00	2.599E+00	1.050E+00	40.41	
NP-237	2.14E+06Y	1.00	1.135E+01	1.135E+01	0.204E+01	17.98	
			---------	---------			
	Total Activity :		1.698E+01	1.809E+01			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
NB-95M	3.61D	135.	4.743E+00	6.403E+02	2.349E+02	36.68	
AM-243	7380.00Y	1.00	1.573E+01	1.573E+01	0.154E+01	9.79	
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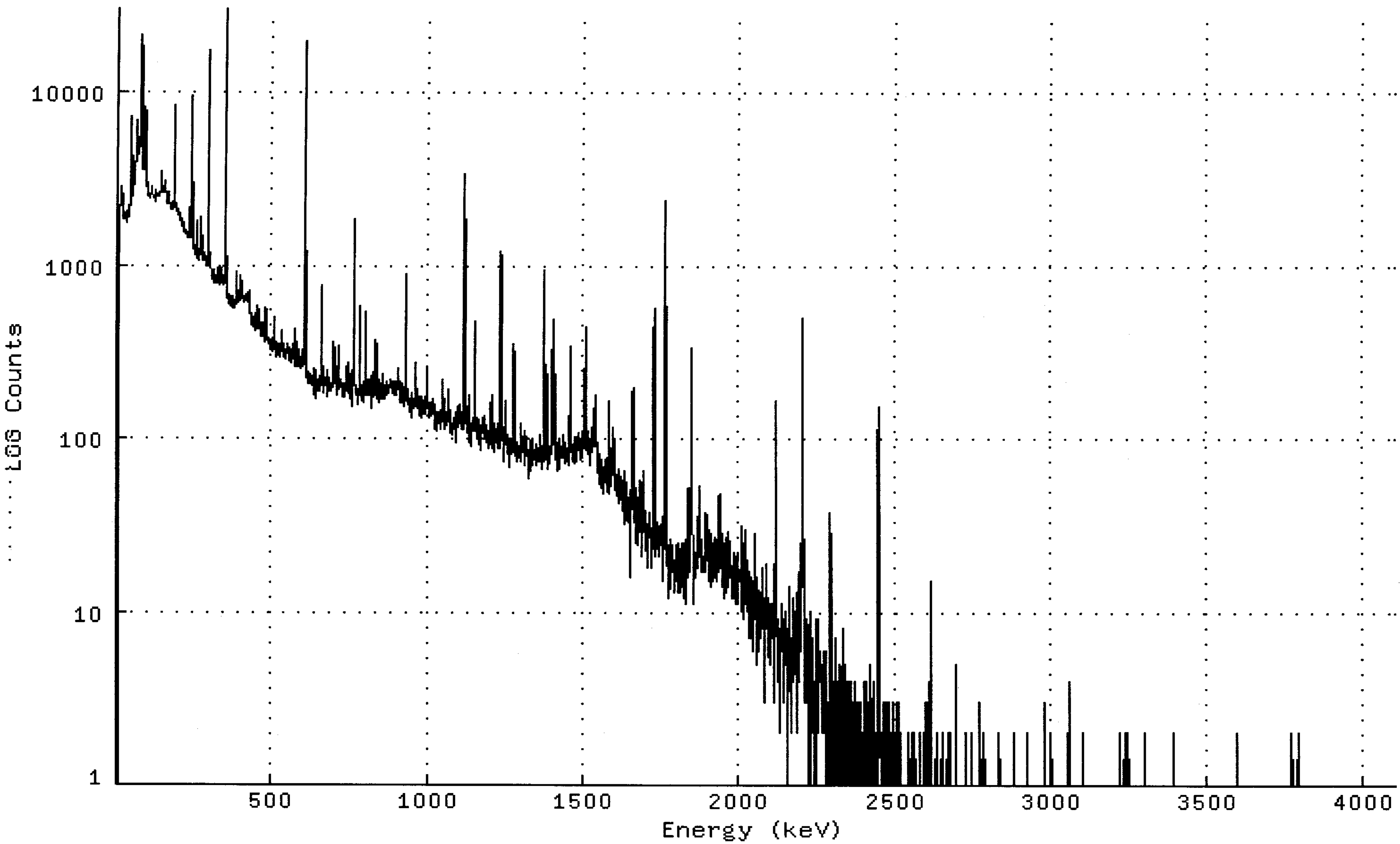
	Total Activity :		2.047E+01	6.560E+02			

Grand Total Activity : 1.154E+03 1.791E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Spectrum : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116310_GE3_GAS1102_176259.CNF;1
Title :
Sample Title: JM-73-31-120128

Start Time: 22-FEB-2012 12:37	Sample Time: 28-JAN-2012 00:00	Energy Offset: -2.78447E-01
Real Time : 0 01:01:50.35	Sample ID : 1201163-10	Energy Slope : 9.99940E-01
Live Time : 0 01:00:00.00	Sample Type: SOLID	Energy Quad : 0.00000E+00



Channel Contents for DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116310_GE3_GAS1102_1762

Channel								
1:	0	0	0	0	0	0	0	0
9:	307	2076	2274	2156	2604	2164	2361	2793
17:	2351	2096	2030	1996	1918	1803	1815	1905
25:	1868	1955	1891	1959	1736	1767	1846	2006
33:	1920	1820	1845	1971	2052	1919	1959	2146
41:	2144	2198	2182	2357	2407	3818	7029	2550
49:	2456	2935	2967	2747	3878	3892	2873	2966
57:	3066	3333	3603	3998	4145	4188	5958	6750
65:	4296	4282	4402	5307	4438	4356	4664	4739
73:	4796	6140	16853	8176	21036	15836	4776	5005
81:	4835	4123	3535	6413	4106	3489	7559	7928
89:	3676	5469	3848	3960	7571	3795	3660	2870
97:	2630	2922	2815	2501	2521	2462	2432	2458
105:	2394	2443	2505	2492	2517	2605	2639	2567
113:	2813	2494	2469	2463	2472	2417	2392	2400
121:	2497	2556	2666	2420	2269	2478	2463	2463
129:	2537	2529	2538	2503	2476	2443	2473	2541
137:	2527	2524	2596	2609	2630	2613	2631	3409
145:	3000	2591	2611	2576	2585	2724	2741	2794
153:	2672	2936	3030	2650	2596	2519	2555	2514
161:	2392	2246	2429	2562	2271	2361	2258	2231
169:	2213	2228	2204	2211	2138	2074	2159	2199
177:	2167	2128	2193	2211	2070	2257	2132	2211
185:	2543	8261	7646	2348	2152	2164	2017	2016
193:	1997	2070	1963	2058	2047	1976	1913	1925
201:	1917	1927	1880	1768	1852	1941	1676	1676
209:	1644	1736	1726	1633	1601	1653	1716	1546
217:	1564	1539	1559	1548	1547	1526	1483	1521
225:	1486	1510	1472	1539	1417	1476	1502	1440
233:	1429	1507	1466	2107	1791	1415	1668	1439
241:	1897	9409	6382	1388	1313	1235	1236	1310
249:	1231	1255	1195	1217	1186	1131	1231	1396
257:	1438	1215	1771	1360	1077	1083	1110	1147
265:	1117	1059	1116	1073	1372	1852	1524	1531
273:	1117	1198	1454	1180	1039	1070	1048	1079
281:	1088	1074	1115	1042	1064	1149	1058	984
289:	1004	1079	979	1015	1016	1449	13720	16981
297:	1938	988	1095	1157	1051	962	971	975
305:	899	831	857	818	806	888	830	854
313:	863	926	923	788	783	833	831	768
321:	794	829	798	954	817	834	776	858
329:	837	965	868	756	821	837	839	790
337:	807	849	946	804	784	850	860	762
345:	794	797	769	773	835	907	4321	30290
353:	17060	1273	947	941	724	641	632	627
361:	661	606	614	638	587	583	580	588
369:	591	643	589	576	610	617	658	566
377:	617	584	615	590	624	592	605	560
385:	610	618	784	734	902	767	655	639
393:	616	666	605	638	633	613	617	657
401:	675	867	731	703	786	802	665	629
409:	639	650	602	629	649	607	648	658
417:	652	673	635	617	649	686	624	665
425:	624	607	648	701	574	567	534	519

433:	524	493	516	445	509	473	503	463
441:	445	479	433	443	490	444	419	463
449:	516	421	473	469	485	461	576	499
457:	435	421	436	432	428	543	514	432
465:	421	390	405	436	388	459	422	386
473:	429	441	460	396	359	387	390	525
481:	565	415	384	366	369	411	525	551
489:	396	344	343	354	370	359	346	337
497:	320	359	321	364	346	349	333	313
505:	371	332	340	325	375	487	497	487
513:	382	334	318	313	337	294	322	320
521:	302	331	325	314	346	294	313	343
529:	314	323	308	337	369	418	335	346
537:	371	317	328	294	309	308	325	345
545:	307	284	308	295	304	282	323	315
553:	306	309	309	347	322	305	280	311
561:	314	332	323	324	279	289	285	271
569:	289	326	299	283	349	298	330	294
577:	255	281	283	420	421	309	311	315
585:	282	254	295	280	261	277	325	260
593:	287	251	268	288	283	274	273	255
601:	290	263	280	299	318	263	307	1201
609:	12849	19074	3201	450	457	327	307	256
617:	231	221	219	206	226	212	221	238
625:	224	204	216	209	213	208	201	224
633:	220	206	207	204	192	216	224	248
641:	217	178	217	196	167	242	201	200
649:	203	215	194	206	201	187	214	186
657:	193	195	200	211	242	198	203	215
665:	515	748	324	204	181	187	204	189
673:	195	203	203	221	205	198	203	236
681:	171	221	243	194	186	210	195	187
689:	219	200	187	192	201	198	192	186
697:	204	202	217	200	193	225	356	317
705:	204	210	230	233	208	210	260	181
713:	175	195	183	189	188	211	228	337
721:	235	219	208	197	202	193	216	206
729:	192	207	172	194	198	190	186	198
737:	189	188	170	207	185	260	257	225
745:	184	195	193	179	191	193	186	199
753:	267	204	187	229	168	188	177	202
761:	179	152	171	219	228	264	366	1258
769:	1830	515	208	180	187	178	193	198
777:	184	192	184	183	154	181	168	199
785:	294	578	439	231	180	165	173	181
793:	187	190	200	199	191	165	182	209
801:	177	161	185	176	224	475	527	252
809:	189	191	196	194	176	210	208	180
817:	197	216	188	176	218	227	204	148
825:	190	196	202	181	171	215	177	239
833:	241	198	206	176	184	226	369	341
841:	190	167	205	177	188	161	181	214
849:	197	199	178	186	167	206	169	195
857:	170	178	191	189	231	180	167	187
865:	190	179	181	169	196	206	187	209
873:	192	178	194	184	201	184	187	196
881:	197	179	215	201	197	199	196	201
889:	181	205	194	183	210	204	209	186
897:	191	175	195	186	204	178	201	190
905:	210	198	192	204	198	225	207	251

913:	179	160	168	161	183	183	164	161
921:	165	206	159	171	193	184	152	195
929:	160	164	176	188	309	877	736	247
937:	167	156	172	188	171	178	165	155
945:	146	166	158	142	150	145	179	155
953:	169	177	130	164	147	167	148	148
961:	165	172	154	261	268	180	151	146
969:	186	191	159	168	160	169	155	163
977:	162	144	172	134	132	158	160	174
985:	142	145	152	153	151	146	137	165
993:	142	154	145	143	136	174	176	179
1001:	260	239	171	147	156	131	160	137
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1017:	148	148	139	137	143	166	151	154
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KB 2/22/12

Sample ID : 1201163-11 Acquisition date : 22-FEB-2012 13:12:03

VAX/VMS Peak Search Report Generated 22-FEB-2012 14:12:39.01

Configuration : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116311_GE2_GAS1102_176264.
Analyses by : PEAK V16.9 ENBACK V1.6 PEAKEFF V2.2
Client ID : JM-55-31-120128
Deposition Date :
Sample Date : 28-JAN-2012 00:00:00 Acquisition date : 22-FEB-2012 13:12:03
Sample ID : 1201163-11 Sample Quantity : 4.10890E+02 GRAM
Sample type : SOLID Sample Geometry : 0
Detector name : GE2 Detector Geometry: GAS-1102
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:17.40 0.5%
Start channel : 5 End channel : 4096
Sensitivity : 2.40000 Gaussian : 15.00000
Critical level : Yes

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	27.53	245	5825	1.76	27.47	25	5	94.8		
0	46.23*	2310	10236	1.61	46.17	44	5	12.9		PB-210
0	53.76*	825	11705	1.15	53.71	51	6	42.1		
0	63.12*	4482	15094	1.61	63.08	60	6	9.2		TH-234
0	67.63	684	11035	1.38	67.59	67	4	44.1		
0	76.49*	35374	30952	3.00	76.45	71	12	2.3		
3	84.04	2144	8075	1.12	84.00	82	16	11.2	7.79E+02	
3	87.40	5786	9169	1.18	87.36	82	16	5.3		NP-237 SN-126 CD-109
3	90.03	2149	8453	1.35	90.00	82	16	13.6		
3	95.03	729	6875	1.36	95.00	82	16	38.5		
0	97.39	389	8582	1.83	97.35	97	6	76.2		
0	112.94	436	8578	1.37	112.91	111	6	68.0		
0	130.13	296	8497	5.14	130.11	128	6	99.0		
0	143.98*	954	10612	1.21	143.96	141	7	36.4		U-235 CE-141
0	154.08	889	10551	1.77	154.07	151	7	39.0		
0	163.53*	267	6756	1.83	163.52	162	5	93.3		U-235
0	186.08*	9975	10071	1.39	186.08	182	8	4.0		RA-226
0	205.15	199	5101	1.90	205.16	204	5	108.7		U-235
1	236.07	1060	4106	1.70	236.09	232	15	19.1	1.02E+01	NB-95M
1	239.13*	406	4025	1.70	239.15	232	15	52.5		PB-212
1	241.94*	10539	3087	1.39	241.96	232	15	2.5		RA-224
1	256.05*	485	3392	1.72	256.07	253	10	37.1	3.78E+00	
1	258.86	794	3312	1.72	258.89	253	10	23.5		
7	270.05	1779	4432	3.07	270.09	266	13	13.2	1.14E+01	
7	274.88	737	4287	2.18	274.92	266	13	30.8		
0	286.03	247	3656	5.36	286.07	284	6	78.7		
0	295.12*	22417	4799	1.41	295.16	291	8	1.7		PB-214
0	313.84	255	2925	3.17	313.89	311	6	68.1		
0	323.64	183	2456	1.31	323.69	322	5	82.2		RA-223
0	337.90*	220	2954	1.21	337.96	336	6	79.4		
0	351.77*	38176	4072	1.43	351.84	347	9	1.2		PB-214
0	372.32	145	2274	3.64	372.39	370	6	104.9		
0	387.85	648	3522	3.14	387.93	384	9	34.0		

AG 2/23/12

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
1	401.75	364	2065	1.79	401.83	397	12	38.6	3.18E+00	RN-219
1	405.09	279	2495	1.87	405.17	397	12	58.6		
0	427.18	193	2159	2.13	427.28	425	6	77.9		
0	454.49	226	1930	1.20	454.59	452	7	66.0		
0	462.25	213	1856	1.75	462.35	459	7	68.3		
0	480.12	195	1436	1.88	480.23	478	6	63.2		
0	486.84	345	1553	1.75	486.95	484	7	39.5		LA-140
0	493.03	181	1459	3.57	493.14	491	7	71.6		
2	510.19*	211	1251	2.16	510.31	506	11	56.3	1.60E+00	
2	512.50	133	1241	2.16	512.63	506	11	89.6		KR-85 SR-85
1	579.79	237	1073	1.95	579.94	576	10	45.5	4.73E+00	
1	582.74	174	871	1.77	582.89	576	10	55.4		TL-208
2	604.23	55	348	2.00	604.39	603	11	83.3	2.48E+00	
2	609.03*	28216	764	1.64	609.19	603	11	1.2		BI-214
0	665.31	905	959	2.00	665.49	662	8	13.6		
0	702.66	259	891	1.98	702.85	700	7	40.2		
0	708.91*	98	872	5.37	709.10	707	7	101.7		
0	719.65	213	1135	1.76	719.85	716	9	58.6		
0	741.74	258	1027	1.88	741.95	738	9	46.5		
0	752.53	61	586	1.29	752.74	751	5	121.6		
0	767.87*	2724	1316	1.93	768.09	763	11	6.4		
0	785.76	648	1040	1.90	785.99	782	9	19.6		
0	805.77	614	1082	2.02	806.00	802	9	21.0		
0	821.20	106	589	1.53	821.44	819	5	71.6		
0	829.07	185	1200	1.12	829.31	824	10	71.6		
0	838.63	300	731	1.66	838.87	836	6	30.8		
0	888.48	112	976	3.85	888.74	886	8	98.3		SC-46
0	910.71*	138	997	1.51	910.98	908	8	81.3		
0	924.97	88	721	3.30	925.25	922	7	103.7		
0	933.55	1413	916	1.89	933.83	930	9	9.4		
0	963.10	156	811	1.87	963.39	960	8	65.3		
0	1000.44*	258	840	1.95	1000.75	996	9	42.4		PA-234M
0	1010.77	108	802	5.12	1011.08	1007	9	96.4		
0	1049.87	221	945	2.62	1050.20	1044	12	57.3		
0	1069.07	200	680	2.03	1069.40	1065	9	49.1		
0	1119.76*	6197	884	1.99	1120.11	1114	12	3.2		BI-214 SC-46
0	1132.85	76	693	1.58	1133.20	1130	8	122.8		
0	1154.98	587	749	2.01	1155.34	1151	9	18.8		
0	1182.80	132	590	5.53	1183.18	1178	9	68.6		
0	1207.08	186	592	2.44	1207.46	1203	9	49.4		
0	1237.66	2316	704	2.24	1238.06	1233	11	6.1		
0	1253.36	88	536	2.05	1253.76	1250	8	94.1		
0	1280.26	521	603	2.09	1280.68	1276	10	19.7		
0	1302.62	73	450	1.70	1303.04	1300	8	103.5		
3	1377.06	1573	346	2.26	1377.51	1371	22	6.4	1.59E+00	
3	1384.75	376	402	3.02	1385.20	1371	22	22.2		
2	1400.81	514	353	2.25	1401.27	1397	16	15.1	1.07E+00	
2	1407.28	850	371	2.30	1407.74	1397	16	10.1		
6	1457.25	106	284	3.33	1457.72	1455	12	61.8	1.96E+00	

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
6	1460.24*	632	345	2.31	1460.72	1455	12	12.9		K-40
0	1497.75	62	461	1.10	1498.24	1494	8	123.4		
0	1508.72	733	693	2.37	1509.22	1504	12	16.1		
0	1537.85	68	474	2.07	1538.36	1535	7	109.0		
0	1542.76	76	376	2.50	1543.27	1541	7	88.7		
0	1582.08	198	374	2.89	1582.61	1578	9	38.0		
0	1597.43	248	603	7.09	1597.96	1591	16	46.2		LA-140
0	1660.79	314	220	2.59	1661.34	1657	9	20.6		
0	1692.48	137	164	3.75	1693.05	1689	10	38.6		
0	1728.86	1078	173	2.70	1729.44	1724	13	7.9		
0	1763.74*	4780	128	2.54	1764.33	1760	11	3.0		BI-214
0	1837.61	91	88	2.08	1838.23	1836	6	38.5		
0	1846.53	615	173	2.40	1847.15	1843	10	11.4		
0	1872.83	51	147	4.07	1873.47	1868	11	98.1		
5	1884.07	21	77	3.29	1884.71	1882	21	135.6	1.84E+00	
5	1889.23	40	75	2.15	1889.87	1882	21	74.7		
5	1895.17	59	132	3.63	1895.82	1882	21	83.1		
0	1905.66	29	90	3.94	1906.31	1903	8	118.1		
0	1933.84	71	174	3.91	1934.50	1928	14	82.0		
0	2009.38	28	83	1.23	2010.07	2008	8	119.3		
0	2046.80	20	35	2.01	2047.50	2044	7	107.8		
0	2054.73	54	42	8.33	2055.44	2051	11	54.5		
0	2089.00	31	49	1.16	2089.71	2083	13	99.8		
0	2117.42*	289	72	2.66	2118.14	2113	13	16.9		
0	2191.61	33	36	2.01	2192.36	2189	9	72.0		
0	2202.99	1196	56	2.73	2203.75	2198	13	6.4		BI-214
0	2234.80	14	15	4.62	2235.57	2231	10	116.5		
0	2261.08	16	10	2.15	2261.86	2258	7	84.9		
1	2292.29	96	11	2.66	2293.09	2288	18	23.2	8.71E-01	
1	2300.40	14	6	2.89	2301.20	2288	18	97.8		
0	2372.39	11	9	2.49	2373.21	2367	12	120.0		
0	2446.32	334	21	2.48	2447.17	2441	12	12.2		
0	2481.11	10	3	2.26	2481.97	2476	10	84.2		
0	2613.26*	36	6	2.29	2614.17	2608	12	46.3		TL-208
0	2694.49	8	5	1.90	2695.43	2691	9	120.2		

Sample ID : 1201163-11 Acquisition date : 22-FEB-2012 13:12:03

Total number of lines in spectrum	117	
Number of unidentified lines	66	
Number of lines tentatively identified by NID	51	43.59%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.362E+01	2.362E+01	0.401E+01	16.97	
TL-208	1.41E+10Y	1.00	6.267E-01	6.267E-01	2.398E-01	38.25	
PB-210	22.26Y	1.00	4.506E+01	4.516E+01	0.719E+01	15.93	
PB-212	1.41E+10Y	1.00	9.159E-01	9.159E-01	4.880E-01	53.28	
BI-214	1602.00Y	1.00	1.269E+02	1.269E+02	0.079E+02	6.23	
PB-214	1602.00Y	1.00	1.356E+02	1.356E+02	0.092E+02	6.75	
RN-219	3.28E+04Y	1.00	8.203E+00	8.203E+00	3.269E+00	39.86	
RA-223	3.28E+04Y	1.00	5.872E+00	5.872E+00	4.857E+00	82.71	
RA-224	1.41E+10Y	1.00	2.700E+02	2.700E+02	0.256E+02	9.47	
RA-226	1602.00Y	1.00	2.647E+02	2.647E+02	4.849E+02	183.19	
PA-234M	4.47E+09Y	1.00	8.555E+01	8.555E+01	3.728E+01	43.58	
TH-234	4.47E+09Y	1.00	8.565E+01	8.565E+01	1.115E+01	13.02	
U-235	7.04E+08Y	1.00	4.258E+00	4.258E+00	3.083E+00	72.42	
			---------	---------			
	Total Activity :		1.057E+03	1.057E+03			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
SC-46	83.83D	1.24	3.116E-01	3.850E-01	3.801E-01	98.75	
NB-95M	3.61D	136.	4.230E+00	5.737E+02	1.212E+02	21.13	
LA-140	12.79D	4.00	1.194E+00	4.772E+00	1.479E+00	31.00	
			---------	---------			
	Total Activity :		5.735E+00	5.788E+02			

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
KR-85	10.72Y	1.00	5.451E+01	5.476E+01	4.937E+01	90.17	
SR-85	64.84D	1.31	2.383E-01	3.132E-01	2.824E-01	90.17	
CD-109	464.00D	1.04	1.086E+02	1.128E+02	0.190E+02	16.81	
SN-126	1.00E+05Y	1.00	1.091E+01	1.091E+01	0.171E+01	15.63	
CE-141	32.50D	1.73	1.532E+00	2.643E+00	1.141E+00	43.18	
NP-237	2.14E+06Y	1.00	3.204E+01	3.204E+01	0.493E+01	15.38	
			---------	---------			
	Total Activity :		2.078E+02	2.135E+02			

Grand Total Activity : 1.270E+03 1.849E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : 1201163-11 Acquisition date : 22-FEB-2012 13:12:03

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
K-40	1460.81	10.67*	4.582E-01	2.362E+01	2.362E+01	16.97	OK
	Final Mean for 1 Valid Peaks = 2.362E+01+/- 4.007E+00 (16.97%)						
TL-208	583.14	30.22*	9.242E-01	1.136E+00	1.136E+00	56.24	OK
	860.37	4.48	6.742E-01	----- Line Not Found		-----	Absent
	2614.66	35.85	3.402E-01	5.433E-01	5.433E-01	47.61	OK
	Final Mean for 2 Valid Peaks = 6.267E-01+/- 2.398E-01 (38.25%)						
PB-210	46.50	4.25*	2.204E+00	4.506E+01	4.516E+01	15.93	OK
	Final Mean for 1 Valid Peaks = 4.516E+01+/- 7.193E+00 (15.93%)						
PB-212	238.63	44.60*	1.817E+00	9.159E-01	9.159E-01	53.28	OK
	300.09	3.41	1.555E+00	----- Line Not Found		-----	Absent
	Final Mean for 1 Valid Peaks = 9.159E-01+/- 4.880E-01 (53.28%)						
BI-214	609.31	46.30*	8.915E-01	1.249E+02	1.249E+02	9.90	OK
	1120.29	15.10	5.508E-01	1.361E+02	1.361E+02	10.60	<<WM Interf
	1764.49	15.80	4.084E-01	1.354E+02	1.354E+02	10.50	OK
	2204.22	4.98	3.644E-01	1.204E+02	1.204E+02	12.33	OK
	Final Mean for 3 Valid Peaks = 1.269E+02+/- 7.899E+00 (6.23%)						
PB-214	295.21	19.19	1.574E+00	1.356E+02	1.356E+02	9.41	OK
	351.92	37.19*	1.383E+00	1.356E+02	1.356E+02	9.70	OK
	Final Mean for 2 Valid Peaks = 1.356E+02+/- 9.160E+00 (6.75%)						
RN-219	401.80	6.50*	1.248E+00	8.203E+00	8.203E+00	39.86	OK
	Final Mean for 1 Valid Peaks = 8.203E+00+/- 3.269E+00 (39.86%)						
RA-223	323.87	3.88*	1.472E+00	5.872E+00	5.872E+00	82.71	OK
	Final Mean for 1 Valid Peaks = 5.872E+00+/- 4.857E+00 (82.71%)						
RA-224	240.98	3.95*	1.806E+00	2.700E+02	2.700E+02	9.47	OK
	Final Mean for 1 Valid Peaks = 2.700E+02+/- 2.557E+01 (9.47%)						
RA-226	186.21	3.28*	2.099E+00	2.647E+02	2.647E+02	183.19	OK
	Final Mean for 1 Valid Peaks = 2.647E+02+/- 4.849E+02 (183.19%)						
PA-234M	1001.03	0.92*	5.993E-01	8.555E+01	8.555E+01	43.58	OK
	Final Mean for 1 Valid Peaks = 8.555E+01+/- 3.728E+01 (43.58%)						

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
TH-234	63.29	3.80*	2.516E+00	8.565E+01	8.565E+01	13.02	OK

Final Mean for 1 Valid Peaks = 8.565E+01+/- 1.115E+01 (13.02%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
U-235	143.76	10.50*	2.361E+00	7.029E+00	7.029E+00	40.54	<<WM Interf
	163.35	4.70	2.238E+00	4.640E+00	4.640E+00	95.31	OK
	205.31	4.70	1.990E+00	3.896E+00	3.896E+00	110.39	OK

Final Mean for 2 Valid Peaks = 4.258E+00+/- 3.083E+00 (72.42%)

Nuclide Type: ACTIVATION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
SC-46	889.25	99.98*	6.569E-01	3.116E-01	3.850E-01	98.75	OK
	1120.51	99.99	5.508E-01	2.056E+01	2.540E+01	10.60	<<WM Interf

Final Mean for 1 Valid Peaks = 3.850E-01+/- 3.801E-01 (98.75%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
NB-95M	235.69	25.00*	1.831E+00	4.230E+00	5.737E+02	21.13	OK

Final Mean for 1 Valid Peaks = 5.737E+02+/- 1.212E+02 (21.13%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
LA-140	328.77	20.50	1.455E+00	-----	Line Not Found	-----	Absent
	487.03	45.50	1.070E+00	1.296E+00	5.180E+00	40.72	OK
	815.85	23.50	7.033E-01	-----	Line Not Found	-----	Absent
	1596.49	95.49*	4.332E-01	1.095E+00	4.378E+00	47.41	OK

Final Mean for 2 Valid Peaks = 4.772E+00+/- 1.479E+00 (31.00%)

Nuclide Type: FISSION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
KR-85	513.99	0.43*	1.025E+00	5.451E+01	5.476E+01	90.17	OK

Final Mean for 1 Valid Peaks = 5.476E+01+/- 4.937E+01 (90.17%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
SR-85	513.99	99.27*	1.025E+00	2.383E-01	3.132E-01	90.17	OK

Final Mean for 1 Valid Peaks = 3.132E-01+/- 2.824E-01 (90.17%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
CD-109	88.03	3.72*	2.618E+00	1.086E+02	1.128E+02	16.81	OK

Final Mean for 1 Valid Peaks = 1.128E+02+/- 1.896E+01 (16.81%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
SN-126	87.57	37.00*	2.618E+00	1.091E+01	1.091E+01	15.63	OK

Final Mean for 1 Valid Peaks = 1.091E+01+/- 1.706E+00 (15.63%)

Nuclide Type: FISSION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
CE-141	145.44	48.40*	2.351E+00	1.532E+00	2.643E+00	43.18	OK

Final Mean for 1 Valid Peaks = 2.643E+00+/- 1.141E+00 (43.18%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
NP-237	86.50	12.60*	2.619E+00	3.204E+01	3.204E+01	15.38	OK

Final Mean for 1 Valid Peaks = 3.204E+01+/- 4.929E+00 (15.38%)

Flag: "*" = Keyline

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.362E+01	4.007E+00	3.535E+00	3.624E-01	6.681
SC-46	3.850E-01	3.801E-01	4.487E-01	4.022E-02	0.858
KR-85	5.476E+01	4.937E+01	6.379E+01	5.907E+00	0.858
SR-85	3.132E-01	2.824E-01	3.649E-01	3.379E-02	0.858
NB-95M	5.737E+02	1.212E+02	1.534E+02	1.261E+01	3.740
CD-109	1.128E+02	1.896E+01	9.237E+00	1.425E+00	12.210
SN-126	1.091E+01	1.706E+00	8.935E-01	1.263E-01	12.214
LA-140	4.772E+00	1.479E+00	1.493E+00	1.457E-01	3.197
CE-141	2.643E+00	1.141E+00	1.052E+00	2.401E-01	2.511
TL-208	6.267E-01	2.398E-01	9.572E-01	8.710E-02	0.655
PB-210	4.516E+01	7.193E+00	7.257E+00	6.083E-01	6.222
PB-212	9.159E-01	4.880E-01	6.396E-01	5.261E-02	1.432
BI-214	1.269E+02	7.899E+00	6.441E-01	5.781E-02	196.965
PB-214	1.356E+02	9.160E+00	7.992E-01	6.999E-02	169.705
RN-219	8.203E+00	3.269E+00	4.818E+00	4.338E-01	1.702
RA-223	5.872E+00	4.857E+00	7.436E+00	6.374E-01	0.790
RA-224	2.700E+02	2.557E+01	7.273E+00	5.984E-01	37.123
RA-226	2.647E+02	4.849E+02	9.337E+00	1.710E+01	28.351
PA-234M	8.555E+01	3.728E+01	3.931E+01	3.609E+00	2.176
TH-234	8.565E+01	1.115E+01	8.596E+00	7.160E-01	9.963
U-235	4.258E+00	3.083E+00	2.786E+00	4.823E-01	1.528
NP-237	3.204E+01	4.929E+00	2.621E+00	3.634E-01	12.222

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	2.042E-01		2.543E+00	3.950E+00	3.653E-01	0.052
NA-22	-1.248E-02		2.475E-01	3.618E-01	3.566E-02	-0.034
AL-26	8.931E-02		1.240E-01	2.299E-01	2.078E-02	0.389
TI-44	5.181E-01	+	2.345E-01	3.793E-01	3.556E-02	1.366
V-48	6.219E-01		6.769E-01	1.151E+00	1.053E-01	0.540
CR-51	2.481E-01		4.289E+00	5.449E+00	4.907E-01	0.046
MN-54	1.556E-01		3.109E-01	3.787E-01	3.399E-02	0.411
CO-56	6.669E-02		2.800E-01	4.509E-01	4.049E-02	0.148
CO-57	1.134E-01		2.009E-01	3.301E-01	2.799E-02	0.343
CO-58	4.396E-02		2.792E-01	4.231E-01	3.801E-02	0.104
FE-59	-4.882E-01		5.779E-01	9.285E-01	9.219E-02	-0.526
CO-60	1.595E-01		2.525E-01	3.813E-01	3.536E-02	0.418
ZN-65	5.590E+00		8.527E-01	1.188E+00	1.104E-01	4.705
GA-67	1.196E+03		4.213E+03	2.404E+02	8.460E+02	4.976
SE-75	-1.296E-01		4.258E-01	5.417E-01	4.488E-02	-0.239
RB-82	-1.894E+00		4.136E+00	4.822E+00	4.304E-01	-0.393
RB-83	2.911E-02		4.881E-01	7.555E-01	1.208E-01	0.039
Y-88	4.056E-01		2.118E-01	3.654E-01	3.262E-02	1.110
NB-93M	-2.279E+01		9.821E+00	1.160E+01	3.492E+00	-1.965
NB-94	-1.495E-02		2.165E-01	3.621E-01	3.250E-02	-0.041
NB-95	8.899E+00		9.979E-01	1.034E+00	9.218E-02	8.602

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	-7.701E-03		5.343E-01	7.391E-01	7.199E-02	-0.010
RU-103	6.875E-02		3.161E-01	4.922E-01	7.167E-02	0.140
RU-106	-1.412E+00		1.744E+00	2.902E+00	3.930E-01	-0.487
AG-108M	2.115E-02		2.307E-01	3.512E-01	3.096E-02	0.060
AG-110M	3.266E-01		2.127E-01	3.379E-01	2.923E-02	0.967
SN-113	8.597E-02		3.861E-01	5.568E-01	5.126E-02	0.154
TE123M	2.230E-01		3.128E-01	4.146E-01	3.335E-02	0.538
SB-124	7.548E-02		2.728E-01	4.212E-01	3.796E-02	0.179
I-125	-3.493E+00		3.950E+00	6.590E+00	6.759E-01	-0.530
SB-125	1.029E+00	+	8.077E-01	1.133E+00	1.051E-01	0.908
SB-126	3.887E+00	+	2.308E+00	2.662E+00	2.345E-01	1.460
SB-127	6.476E+01		4.885E+01	8.499E+01	7.399E+00	0.762
I-129	-1.682E-01		4.158E-01	6.498E-01	7.965E-02	-0.259
I-131	-1.964E-01		1.889E+00	3.142E+00	2.773E-01	-0.063
TE-132	-3.233E+01		5.190E+01	7.565E+01	6.210E+00	-0.427
BA-133	7.869E-02		3.296E-01	4.782E-01	6.364E-02	0.165
CS-134	1.175E-01	+	9.855E-02	4.010E-01	3.617E-02	0.293
CS-135	7.074E+00		1.343E+00	2.016E+00	1.657E-01	3.509
CS-136	1.568E+00		1.054E+00	1.808E+00	1.713E-01	0.867
CS-137	3.208E-01		2.344E-01	3.695E-01	3.192E-02	0.868
LA-138	2.214E-01		3.573E-01	5.954E-01	6.002E-02	0.372
CE-139	2.888E-01		2.808E-01	4.227E-01	3.365E-02	0.683
BA-140	-2.429E+00		2.914E+00	4.718E+00	1.571E+00	-0.515
CE-144	-1.219E+00		1.821E+00	2.717E+00	2.265E-01	-0.449
PM-144	5.987E-02		2.084E-01	3.201E-01	2.801E-02	0.187
PM-145	-1.004E+00		1.083E+00	1.438E+00	9.388E-01	-0.698
PM-146	9.220E-01	+	6.152E-01	7.850E-01	7.223E-02	1.175
ND-147	6.374E+00		6.591E+00	1.146E+01	1.060E+00	0.556
EU-152	2.224E+01	+	3.623E+00	4.280E+00	5.191E-01	5.196
GD-153	-1.103E+00		8.214E-01	1.213E+00	1.414E-01	-0.910
EU-154	-3.189E-02		6.878E-01	1.005E+00	9.910E-02	-0.032
EU-155	1.319E+01	+	2.029E+00	1.314E+00	1.821E-01	10.044
EU-156	-2.827E+00		6.808E+00	1.006E+01	2.312E+00	-0.281
HO-166M	3.066E-01		4.585E-01	5.711E-01	5.017E-02	0.537
HF-172	-7.099E-01		1.611E+00	2.419E+00	2.038E-01	-0.293
LU-172	3.225E+00		4.787E+00	8.093E+00	7.505E-01	0.398
LU-173	6.925E+00		1.138E+00	1.642E+00	1.348E-01	4.218
HF-175	-2.841E-01		3.684E-01	4.542E-01	3.954E-02	-0.626
LU-176	-2.028E-01		2.091E-01	2.970E-01	2.507E-02	-0.683
TA-182	6.640E+01		6.966E+00	4.198E+00	3.896E-01	15.815
IR-192	4.029E-01		5.073E-01	7.987E-01	7.373E-02	0.504
HG-203	1.713E-02		4.201E-01	5.377E-01	4.546E-02	0.032
BI-207	6.874E-02		1.872E-01	3.085E-01	2.822E-02	0.223
BI-210M	-6.247E-02		4.846E-01	6.196E-01	5.099E-02	-0.101
PB-211	1.417E+01	+	8.416E+00	1.176E+01	1.061E+00	1.205
BI-212	-5.102E-02		1.733E+00	2.629E+00	2.321E-01	-0.019
RA-225	-3.601E-01		2.084E+00	3.255E+00	3.021E-01	-0.111
TH-227	9.204E+00	+	1.945E+00	2.859E+00	2.351E-01	3.219

Sample ID : 1201163-11 Acquisition date : 22-FEB-2012 13:12:03

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-228	1.411E+00	+	1.155E+00	1.468E+00	1.320E-01	0.962
TH-230	1.322E+02	+	5.982E+01	9.671E+01	9.021E+00	1.367
PA-231	6.247E+00		8.589E+00	1.264E+01	1.063E+00	0.494
TH-231	2.056E+00		1.964E+00	3.105E+00	4.573E-01	0.662
PA-233	7.075E-01		9.824E-01	1.429E+00	3.200E-01	0.495
PA-234	1.089E+00	+	1.083E+00	1.356E+00	1.134E-01	0.803
AM-241	2.005E+00		6.823E-01	9.347E-01	6.992E-02	2.145
AM-243	1.669E+01		2.000E+00	8.021E-01	8.791E-02	20.802
CM-243	4.838E-01		1.407E+00	2.067E+00	1.695E-01	0.234

Sample ID : 1201163-11 Acquisition date : 22-FEB-2012 13:12:03

Total number of lines in spectrum	117	
Number of unidentified lines	66	
Number of lines tentatively identified by NID	51	43.59%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.362E+01	2.362E+01	0.401E+01	16.97	
TL-208	1.41E+10Y	1.00	6.267E-01	6.267E-01	2.398E-01	38.25	
PB-210	22.26Y	1.00	4.506E+01	4.516E+01	0.719E+01	15.93	
PB-212	1.41E+10Y	1.00	9.159E-01	9.159E-01	4.880E-01	53.28	
BI-214	1602.00Y	1.00	1.269E+02	1.269E+02	0.079E+02	6.23	
PB-214	1602.00Y	1.00	1.356E+02	1.356E+02	0.092E+02	6.75	
RN-219	3.28E+04Y	1.00	8.203E+00	8.203E+00	3.269E+00	39.86	
RA-223	3.28E+04Y	1.00	5.872E+00	5.872E+00	4.857E+00	82.71	
RA-224	1.41E+10Y	1.00	2.700E+02	2.700E+02	0.256E+02	9.47	
RA-226	1602.00Y	1.00	2.647E+02	2.647E+02	4.849E+02	183.19	
PA-234M	4.47E+09Y	1.00	8.555E+01	8.555E+01	3.728E+01	43.58	
TH-234	4.47E+09Y	1.00	8.565E+01	8.565E+01	1.115E+01	13.02	
U-235	7.04E+08Y	1.00	4.258E+00	4.258E+00	3.083E+00	72.42	
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	Total Activity :		1.057E+03	1.057E+03			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
SC-46	83.83D	1.24	3.116E-01	3.850E-01	3.801E-01	98.75	
NB-95M	3.61D	136.	4.230E+00	5.737E+02	1.212E+02	21.13	
LA-140	12.79D	4.00	1.194E+00	4.772E+00	1.479E+00	31.00	
			---------	---------			
	Total Activity :		5.735E+00	5.788E+02			

Nuclide Type : FISSION

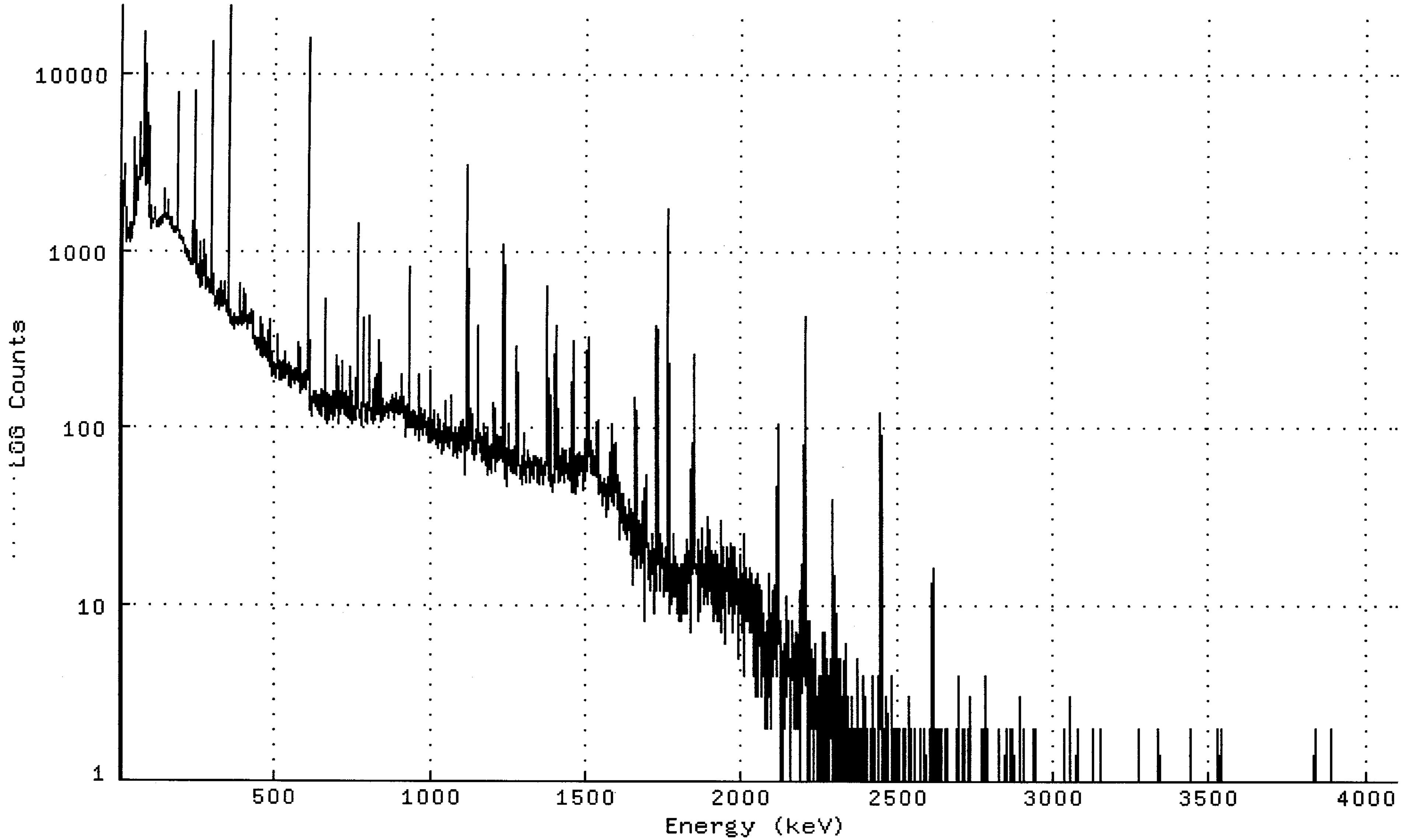
Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
KR-85	10.72Y	1.00	5.451E+01	5.476E+01	4.937E+01	90.17	
SR-85	64.84D	1.31	2.383E-01	3.132E-01	2.824E-01	90.17	
CD-109	464.00D	1.04	1.086E+02	1.128E+02	0.190E+02	16.81	
SN-126	1.00E+05Y	1.00	1.091E+01	1.091E+01	0.171E+01	15.63	
CE-141	32.50D	1.73	1.532E+00	2.643E+00	1.141E+00	43.18	
NP-237	2.14E+06Y	1.00	3.204E+01	3.204E+01	0.493E+01	15.38	
			---------	---------			
	Total Activity :		2.078E+02	2.135E+02			

Grand Total Activity :	1.270E+03	1.849E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Spectrum : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116311_GE2_GAS1102_176264.CNF;1
Title :
Sample Title: JM-55-31-120128

Start Time:	22-FEB-2012 13:12	Sample Time:	28-JAN-2012 00:00	Energy Offset:	6.87229E-02
Real Time :	0 01:00:17.40	Sample ID :	1201163-11	Energy Slope :	9.99625E-01
Live Time :	0 01:00:00.00	Sample Type:	SOLID	Energy Quad :	0.00000E+00



Channel Contents for DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116311_GE2_GAS1102_1762

Channel

1:	0	0	0	0	0	0	1	862
9:	1633	2098	2786	2041	2200	2978	2016	1895
17:	1608	1452	1339	1275	1192	1099	1176	1267
25:	1218	1177	1307	1267	1101	1128	1191	1400
33:	1197	1144	1169	1291	1253	1196	1242	1392
41:	1445	1386	1516	1533	1630	3665	4219	1561
49:	1603	2145	1726	1796	2950	2269	1886	1910
57:	2014	2173	2343	2550	2655	2825	5120	3931
65:	2531	2610	2954	3270	2844	2651	2840	2930
73:	2949	5108	11285	5271	16843	7485	3064	2925
81:	3338	2323	2563	4434	2461	2428	5884	4309
89:	2344	3570	2112	3638	4939	2196	2194	1523
97:	1472	1751	1669	1452	1310	1317	1456	1397
105:	1402	1456	1475	1434	1472	1501	1501	1533
113:	1709	1493	1393	1385	1377	1399	1354	1356
121:	1348	1480	1413	1430	1349	1414	1382	1476
129:	1483	1459	1505	1464	1406	1408	1448	1434
137:	1465	1543	1504	1523	1536	1543	1621	2203
145:	1649	1542	1483	1529	1510	1548	1577	1590
153:	1647	1906	1700	1530	1490	1443	1506	1418
161:	1413	1374	1505	1499	1334	1323	1325	1421
169:	1319	1302	1243	1327	1324	1258	1269	1248
177:	1252	1234	1301	1271	1310	1325	1333	1314
185:	2583	7673	3435	1262	1201	1213	1263	1161
193:	1194	1156	1179	1181	1154	1124	1167	1164
201:	1148	1124	1085	1078	1149	1102	1004	967
209:	996	982	976	950	948	975	908	992
217:	977	907	973	912	926	936	857	910
225:	891	887	890	855	862	821	865	823
233:	832	888	1035	1442	931	978	1062	833
241:	2622	7883	2201	736	758	736	727	735
249:	720	764	682	694	690	732	709	960
257:	819	875	1113	743	616	625	663	636
265:	656	636	643	662	1128	1044	1100	864
273:	712	812	938	656	654	597	611	602
281:	623	648	612	668	663	682	659	659
289:	572	605	616	603	587	2813	15032	6330
297:	668	571	607	728	569	548	586	549
305:	537	509	508	478	518	496	476	528
313:	556	550	583	487	490	519	496	490
321:	480	452	555	651	472	509	507	501
329:	594	579	476	499	565	546	474	489
337:	506	654	531	511	485	515	473	440
345:	462	499	495	518	551	852	9994	24340
353:	4691	441	381	425	453	382	395	415
361:	386	407	401	376	391	389	356	384
369:	369	372	431	399	412	415	390	380
377:	387	389	416	386	372	382	400	390
385:	380	487	559	532	637	426	383	376
393:	401	430	384	439	380	394	405	454
401:	483	596	422	453	551	479	453	396
409:	441	381	355	416	405	384	426	400
417:	401	431	427	408	383	422	396	395
425:	379	394	451	437	361	330	353	347

433:	315	305	303	318	324	289	314	311
441:	300	271	290	309	298	292	282	282
449:	317	279	291	305	312	331	409	250
457:	274	275	245	272	311	370	309	292
465:	270	268	252	299	298	312	283	262
473:	265	276	248	260	241	243	246	343
481:	342	232	225	250	238	265	402	319
489:	232	192	229	244	264	247	237	224
497:	195	219	219	201	225	187	222	186
505:	206	218	214	213	268	334	329	260
513:	277	195	217	205	202	185	214	195
521:	231	185	217	214	194	206	193	219
529:	236	196	208	188	261	265	197	189
537:	245	218	208	197	199	216	224	196
545:	197	212	226	185	171	213	198	182
553:	197	217	176	164	206	191	183	185
561:	196	190	184	179	176	212	173	194
569:	187	184	213	214	186	198	185	187
577:	182	179	218	298	243	177	275	205
585:	156	183	172	164	174	160	195	175
593:	190	167	203	195	183	179	168	181
601:	188	186	163	206	178	181	257	3945
609:	15686	8509	658	148	125	148	161	154
617:	129	147	122	136	142	115	146	136
625:	135	153	154	137	159	141	130	142
633:	159	134	136	153	131	138	151	137
641:	124	125	117	123	140	127	120	138
649:	160	128	127	129	122	115	158	140
657:	131	140	151	140	142	109	143	218
665:	532	424	172	140	126	105	150	119
673:	127	110	133	149	148	119	139	119
681:	121	136	142	147	135	120	150	157
689:	110	134	119	115	159	135	121	124
697:	157	146	135	127	149	183	250	191
705:	146	104	145	138	136	158	157	118
713:	121	128	126	119	129	131	183	235
721:	159	134	137	121	137	117	156	139
729:	121	116	138	123	128	159	139	113
737:	111	125	122	142	151	215	169	121
745:	132	108	114	106	125	121	105	159
753:	137	124	122	118	129	109	129	124
761:	123	125	110	138	159	222	511	1400
769:	923	206	126	125	124	119	123	113
777:	118	101	137	123	130	113	137	135
785:	298	414	206	132	138	115	107	112
793:	115	133	131	122	117	103	135	122
801:	124	121	124	125	265	420	277	138
809:	117	109	128	123	110	126	110	123
817:	109	137	104	141	186	142	122	110
825:	147	146	145	117	121	140	137	199
833:	123	124	129	117	118	210	305	175
841:	106	136	146	133	145	131	132	133
849:	142	108	127	126	118	116	117	118
857:	131	133	134	135	133	137	127	113
865:	112	118	132	117	120	129	139	130
873:	123	133	134	132	149	123	138	121
881:	126	135	132	132	109	122	139	143
889:	144	156	131	122	131	123	119	132
897:	128	134	139	141	132	138	134	136
905:	148	118	120	123	132	146	199	153

913:	143	130	119	135	113	123	115	118
921:	113	88	116	130	133	126	107	109
929:	101	98	111	143	486	809	372	109
937:	101	100	107	107	115	101	121	111
945:	123	99	121	104	117	117	90	122
953:	95	105	100	99	96	116	96	99
961:	114	84	152	197	140	85	96	113
969:	127	107	117	100	112	97	97	96
977:	111	90	104	116	121	125	113	101
985:	112	114	100	107	97	99	97	95
993:	84	111	110	82	112	98	121	148
1001:	207	149	101	83	99	93	83	99
1009:	107	99	125	109	93	110	85	95
1017:	105	85	79	82	95	84	97	85
1025:	93	118	94	75	80	94	82	108
1033:	94	97	90	84	88	80	77	95
1041:	71	74	82	75	103	99	94	83
1049:	81	90	139	125	111	85	81	77
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1065:	76	91	89	91	132	149	89	85
1073:	78	69	85	71	92	77	88	98
1081:	72	79	77	82	88	83	93	67
1089:	74	80	85	90	81	81	73	99
1097:	73	87	72	80	74	83	107	108
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1113:	82	53	98	86	74	225	1171	2980
1121:	1823	340	78	82	75	85	99	83
1129:	92	101	97	83	128	112	80	93
1137:	75	84	74	66	70	84	77	78
1145:	75	81	71	85	74	97	87	76
1153:	84	206	369	246	100	96	72	80
1161:	77	78	76	92	78	72	87	86
1169:	64	79	66	103	81	74	93	75
1177:	83	60	69	91	84	82	100	84
1185:	85	67	54	73	58	67	71	77
1193:	69	71	68	70	77	55	80	79
1201:	64	67	70	68	67	91	137	120
1209:	93	76	56	71	75	68	67	64
1217:	78	90	75	87	70	77	66	75
1225:	66	72	69	87	71	67	72	81
1233:	64	71	72	154	612	1073	643	151
1241:	55	65	60	54	46	52	70	65
1249:	76	70	70	82	104	95	60	78
1257:	65	60	74	56	68	73	55	65
1265:	56	62	65	74	55	67	77	66
1273:	64	69	53	58	65	63	94	206
1281:	284	144	82	68	60	69	66	56
1289:	59	51	61	55	61	51	68	47
1297:	58	50	66	54	76	61	91	77
1305:	53	60	51	56	53	48	62	66
1313:	66	59	61	64	74	62	59	52
1321:	57	49	60	54	62	53	63	58
1329:	53	61	51	68	58	59	63	57
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1345:	56	49	67	54	47	65	58	65
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1361:	47	49	58	51	47	55	57	63
1369:	54	54	53	53	61	61	85	231
1377:	625	626	238	70	50	57	60	97
1385:	186	122	79	55	51	57	49	43

1393:	43	43	54	50	48	49	58	136
1401:	260	212	89	57	63	98	335	374
1409:	211	75	57	49	61	60	68	65
1417:	68	50	59	53	55	51	65	75
1425:	58	66	60	58	48	74	49	55
1433:	54	70	63	63	74	56	61	56
1441:	51	61	57	55	53	62	55	50
1449:	61	76	57	53	68	49	43	67
1457:	61	73	130	255	306	161	71	43
1465:	59	42	63	55	51	45	68	70
1473:	50	56	61	46	66	67	68	65
1481:	63	72	54	59	61	58	59	62
1489:	68	44	69	58	62	55	61	71
1497:	65	70	66	85	50	64	56	60
1505:	65	60	100	226	324	199	114	70
1513:	72	76	60	55	61	60	59	84
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1537:	73	106	109	76	51	84	87	89
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1553:	36	38	41	46	36	51	44	41
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1585:	56	38	45	38	50	46	36	41
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1601:	41	47	45	42	44	34	36	49
1609:	41	45	42	23	34	40	31	33
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1649:	23	30	33	13	27	27	18	38
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1665:	16	21	19	30	19	20	19	28
1673:	21	22	24	21	19	24	28	16
1681:	20	20	38	38	30	18	16	14
1689:	8	20	38	39	53	40	30	26
1697:	22	25	17	22	21	16	14	20
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1729:	371	343	145	27	21	17	22	13
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1761:	26	199	847	1733	1438	508	101	24
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1785:	14	17	11	11	15	13	13	10
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1809:	11	17	17	13	16	10	9	9
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1825:	9	11	10	17	16	16	19	18
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1841:	15	23	15	24	46	147	261	169
1849:	77	16	16	17	15	17	16	15
1857:	16	17	14	17	8	14	23	8
1865:	10	13	20	13	16	16	21	27

1873:	26	22	20	13	12	12	10	17
1881:	16	10	19	15	21	11	16	11
1889:	31	26	20	10	15	18	31	22
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1905:	18	17	20	18	14	8	14	12
1913:	13	20	13	15	10	15	9	18
1921:	19	10	15	18	8	17	8	8
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1945:	6	16	15	12	13	8	20	15
1953:	14	15	12	21	16	11	14	16
1961:	9	13	10	17	13	22	18	16
1969:	16	21	14	17	15	7	11	11
1977:	14	10	21	11	15	10	10	11
1985:	13	11	16	12	12	8	5	7
1993:	11	13	12	9	15	19	11	7
2001:	15	11	10	10	10	14	4	15
2009:	8	25	16	16	9	14	8	14
2017:	10	11	8	14	13	12	9	7
2025:	8	8	9	8	16	7	10	15
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2041:	4	9	3	7	6	6	12	14
2049:	7	3	7	10	15	9	13	7
2057:	7	8	6	11	3	3	11	5
2065:	12	5	9	5	9	8	8	6
2073:	5	3	5	7	7	2	4	5
2081:	6	5	2	5	8	6	8	7
2089:	15	3	6	3	9	6	2	6
2097:	6	4	6	5	5	12	8	13
2105:	6	5	12	9	13	7	7	7
2113:	4	5	9	35	60	105	80	30
2121:	9	6	6	8	5	6	1	5
2129:	2	1	2	3	3	5	6	2
2137:	5	6	6	4	4	11	6	3
2145:	5	8	4	8	6	5	6	4
2153:	5	3	4	1	2	3	5	5
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2169:	6	6	5	4	7	2	6	4
2177:	7	6	2	5	5	4	4	12
2185:	3	4	6	1	2	5	8	17
2193:	12	7	4	8	6	6	4	8
2201:	40	158	303	417	229	64	15	4
2209:	3	1	5	6	8	5	2	3
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2225:	3	3	5	3	2	1	2	3
2233:	2	6	4	5	2	4	1	0
2241:	3	1	3	3	1	3	1	0
2249:	4	1	1	1	1	2	4	1
2257:	1	3	1	4	4	6	7	1
2265:	1	5	7	2	1	1	1	3
2273:	5	2	1	0	2	3	4	1
2281:	1	5	3	4	2	2	3	1
2289:	3	2	8	16	39	27	8	1
2297:	1	1	1	3	5	9	1	1
2305:	0	1	3	1	3	2	5	2
2313:	2	4	4	4	0	5	1	1
2321:	2	2	3	1	4	0	4	2
2329:	4	4	6	6	2	3	1	1
2337:	1	1	3	1	0	1	0	2
2345:	0	1	0	2	1	3	2	1

2353:	1	0	1	0	1	2	0	2
2361:	0	0	1	1	1	0	2	0
2369:	0	5	2	3	1	2	2	1
2377:	2	0	1	2	0	2	1	2
2385:	1	1	1	4	0	1	1	1
2393:	2	0	3	0	2	0	1	2
2401:	1	0	1	1	1	0	1	0
2409:	1	1	1	1	0	0	0	2
2417:	0	0	4	0	3	1	2	0
2425:	1	1	2	1	0	0	1	1
2433:	1	0	0	1	1	4	2	2
2441:	2	2	3	8	23	73	121	69
2449:	38	15	1	0	3	1	1	1
2457:	2	1	2	1	2	3	0	2
2465:	3	2	1	1	1	2	0	1
2473:	0	0	1	0	1	1	1	0
2481:	3	4	2	1	0	0	0	2
2489:	2	1	2	0	2	1	0	1
2497:	0	0	0	0	2	0	1	1
2505:	2	0	0	1	0	0	1	0
2513:	0	0	0	1	0	2	2	0
2521:	1	2	0	1	0	0	0	1
2529:	0	1	1	1	1	0	3	1
2537:	0	1	1	1	1	1	2	0
2545:	1	1	1	0	1	0	1	0
2553:	0	2	0	0	0	1	0	0
2561:	0	0	0	0	1	1	0	1
2569:	1	1	1	0	0	1	2	1
2577:	1	1	0	1	0	0	0	0
2585:	1	1	0	2	1	0	0	1
2593:	0	1	1	0	1	0	0	1
2601:	1	1	2	1	0	0	1	0
2609:	1	0	1	6	11	16	6	6
2617:	1	2	0	1	2	0	0	0
2625:	1	1	0	2	0	0	1	0
2633:	0	0	0	2	0	0	2	1
2641:	1	0	1	0	1	0	1	1
2649:	0	0	0	1	0	0	0	2
2657:	2	0	0	1	0	0	0	0
2665:	1	0	0	0	0	0	0	0
2673:	1	0	1	1	0	1	1	0
2681:	0	0	1	0	1	1	0	0
2689:	0	0	0	1	2	1	4	4
2697:	0	0	1	1	0	0	1	0
2705:	0	0	2	0	0	0	0	0
2713:	2	0	1	0	0	1	0	0
2721:	1	0	0	1	2	0	2	2
2729:	0	1	1	1	0	3	0	0
2737:	0	1	1	1	0	0	0	0
2745:	0	0	1	0	0	0	0	1
2753:	0	0	0	0	0	0	1	1
2761:	1	0	0	0	0	1	1	2
2769:	2	2	1	1	2	0	0	0
2777:	0	2	2	0	0	0	0	4
2785:	0	2	0	1	0	0	0	1
2793:	0	0	1	0	1	0	1	0
2801:	0	0	0	1	1	1	0	1
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2817:	0	0	0	1	1	0	0	0
2825:	1	0	2	1	0	0	0	0

2833:	0	1	0	1	0	0	0	1
2841:	0	0	0	0	0	0	2	0
2849:	0	1	0	0	1	0	0	1
2857:	0	1	0	2	1	1	2	0
2865:	0	1	1	2	0	0	2	0
2873:	1	0	1	0	1	0	0	0
2881:	0	1	0	0	0	1	0	0
2889:	0	1	1	1	3	0	0	0
2897:	0	1	0	1	1	0	2	0
2905:	1	0	0	0	0	0	0	0
2913:	0	0	0	1	0	0	0	1
2921:	1	0	1	0	0	0	0	0
2929:	0	0	0	0	0	0	0	2
2937:	0	1	2	0	0	0	0	1
2945:	0	0	0	0	1	0	0	1
2953:	0	0	0	0	0	1	0	0
2961:	0	0	0	0	0	0	0	0
2969:	0	0	0	1	0	0	0	0
2977:	1	0	1	1	0	0	0	0
2985:	0	0	0	0	0	0	0	0
2993:	0	0	0	1	0	0	0	0
3001:	0	0	0	0	0	0	0	0
3009:	1	0	0	1	0	0	0	0
3017:	0	1	0	0	0	0	0	1
3025:	0	0	0	0	1	1	0	0
3033:	2	0	1	0	0	0	0	0
3041:	0	0	0	0	1	1	0	1
3049:	0	0	2	2	3	0	1	0
3057:	0	0	0	0	0	1	0	0
3065:	0	0	0	0	1	0	0	0
3073:	0	2	0	0	0	0	1	0
3081:	1	0	0	0	0	0	0	0
3089:	0	0	0	0	0	0	0	0
3097:	0	0	0	0	0	1	0	0
3105:	0	0	0	0	0	0	0	0
3113:	0	1	0	0	0	0	0	1
3121:	0	0	0	2	0	0	0	0
3129:	0	0	0	1	0	0	0	1
3137:	0	1	0	1	0	0	0	0
3145:	1	0	0	0	0	0	0	2
3153:	0	1	0	1	1	0	0	0
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3169:	0	0	0	0	0	0	1	0
3177:	0	0	0	0	0	0	0	0
3185:	0	0	0	0	0	0	0	0
3193:	0	1	0	0	0	0	0	0
3201:	1	0	0	0	0	0	0	0
3209:	0	0	0	0	0	0	0	0
3217:	0	1	0	0	0	0	0	0
3225:	0	0	0	1	0	0	0	0
3233:	1	0	0	0	0	0	0	0
3241:	0	0	0	0	0	1	0	0
3249:	0	1	0	0	0	1	0	0
3257:	0	0	0	0	0	1	0	1
3265:	1	1	0	1	1	0	0	0
3273:	0	2	0	0	1	0	0	0
3281:	0	0	0	0	0	0	0	0
3289:	0	0	0	0	0	0	1	0
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3337:	2	0	0	0	0	0	0	0
3345:	0	0	0	0	0	0	0	0
3353:	1	0	0	0	0	0	0	0
3361:	0	0	1	0	0	0	0	0
3369:	1	0	1	0	1	1	0	0
3377:	0	0	0	1	0	0	0	0
3385:	0	0	0	0	0	0	0	0
3393:	0	0	0	0	0	0	0	0
3401:	0	0	1	1	0	0	0	0
3409:	0	0	0	0	0	0	0	0
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3425:	0	0	0	0	0	0	0	0
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3441:	0	0	0	0	0	0	0	0
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3457:	0	0	1	0	1	0	1	0
3465:	0	0	0	0	0	0	0	0
3473:	1	1	1	0	0	0	0	0
3481:	0	0	0	0	1	0	0	0
3489:	0	1	0	0	0	0	0	0
3497:	0	0	0	0	0	1	0	0
3505:	1	0	0	1	0	0	1	0
3513:	0	0	0	0	0	0	0	0
3521:	0	0	1	0	0	0	0	2
3529:	1	1	1	1	0	0	0	0
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3545:	0	1	0	0	0	0	0	0
3553:	0	0	0	0	0	0	0	0
3561:	0	0	0	0	0	0	0	0
3569:	0	0	0	0	0	0	0	1
3577:	0	0	0	0	0	1	0	0
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3593:	0	0	0	0	1	0	0	1
3601:	0	1	0	0	0	0	0	0
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3633:	0	0	0	0	0	0	1	0
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3649:	1	0	0	0	0	0	0	0
3657:	0	0	0	1	0	1	1	0
3665:	0	1	0	0	0	0	1	0
3673:	0	0	1	0	0	0	0	0
3681:	0	1	0	0	0	0	1	0
3689:	0	0	0	0	0	0	0	0
3697:	0	0	0	0	0	1	0	0
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3793:	0	0	0	1	0	0	0	0
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3809:	1	0	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0
3825:	0	0	0	0	0	1	0	0
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3857:	0	0	0	1	0	0	1	0
3865:	0	0	0	0	0	1	0	1
3873:	0	0	0	0	1	0	0	0
3881:	0	0	0	0	0	2	1	0
3889:	0	0	0	0	0	0	0	0
3897:	0	0	0	0	0	0	0	0
3905:	0	1	0	0	0	0	0	1
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3945:	0	0	0	0	0	1	0	0
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3961:	1	0	0	0	0	0	0	0
3969:	0	0	0	0	0	0	0	0
3977:	0	0	0	0	0	0	0	1
3985:	0	1	0	0	0	0	0	0
3993:	0	0	0	0	0	0	0	0
4001:	0	0	1	0	0	0	0	0
4009:	1	0	0	0	0	0	0	0
4017:	0	0	0	0	0	1	0	1
4025:	0	0	0	0	0	0	0	0
4033:	0	1	0	0	0	0	0	0
4041:	0	0	0	0	0	0	0	0
4049:	0	1	0	0	0	0	0	0
4057:	0	0	0	0	0	0	0	0
4065:	0	0	0	1	0	0	0	0
4073:	0	0	0	0	0	0	0	0
4081:	0	1	0	0	0	0	0	0
4089:	0	0	0	0	0	1	0	0

KP
2/22/12

Sample ID : 1201163-12 Acquisition date : 22-FEB-2012 13:25:31

VAX/VMS Peak Search Report Generated 22-FEB-2012 14:26:05.20

Configuration : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116312_GE4_GAS1102_176265.
Analyses by : PEAK V16.9 ENBACK V1.6 PEAKEFF V2.2
Client ID : JM-82-31-120128
Deposition Date :
Sample Date : 28-JAN-2012 00:00:00 Acquisition date : 22-FEB-2012 13:25:31
Sample ID : 1201163-12 Sample Quantity : 4.16380E+02 GRAM
Sample type : SOLID Sample Geometry : 0
Detector name : GE4 Detector Geometry: GAS-1102
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:17.23 0.5%
Start channel : 5 End channel : 4096
Sensitivity : 2.40000 Gaussian : 15.00000
Critical level : Yes

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	46.39*	2699	6895	1.80	45.74	43	6	10.5		PB-210
0	53.28	578	8203	1.64	52.63	51	6	50.2		
0	63.04*	1262	11218	2.10	62.39	60	6	27.0		TH-234
6	68.01	700	3844	2.67	67.37	66	16	22.2	9.32E+01	
6	76.19*	20121	20463	3.57	75.56	66	16	3.1		
1	83.83	652	1803	1.82	83.20	82	9	14.5	3.54E+01	
1	87.43	3158	12390	2.23	86.80	82	9	12.3		NP-237 SN-126 CD-109
0	93.28*	1662	9500	1.79	92.65	90	7	20.5		
0	111.90	260	6158	4.17	111.28	109	6	96.4		
0	144.02	426	6318	2.62	143.43	141	6	59.8		CE-141
0	154.82	366	6257	2.72	154.24	152	6	69.5		
0	186.09*	4586	8916	2.09	185.53	181	10	8.3		RA-226
2	235.97	524	4725	2.59	235.45	232	15	45.5	5.22E+00	NB-95M
2	242.11	5048	3309	1.96	241.59	232	15	4.6		RA-224
0	259.10	150	3025	1.72	258.60	256	6	117.7		
0	271.64	1021	5755	6.12	271.14	264	13	31.3		LU-173
0	295.28	10757	3465	2.02	294.80	290	9	2.8		PB-214
0	323.54	162	2230	2.23	323.08	321	7	98.2		RA-223
0	351.92	17657	3566	2.19	351.48	345	12	2.0		PB-214
0	387.81	397	2124	5.31	387.40	383	9	43.1		
0	401.25	121	1319	1.77	400.84	399	5	91.9		RN-219
0	427.24	168	1520	3.69	426.86	424	7	78.6		
0	454.72	243	1342	4.01	454.36	451	8	53.8		
0	462.00	163	1147	4.00	461.64	459	7	70.9		
0	487.31	92	1099	2.99	486.97	484	7	121.3		
0	511.16*	243	1462	3.82	510.84	506	11	63.0		
0	570.88	110	784	3.74	570.60	568	7	86.4		
0	581.44	176	1011	5.32	581.16	577	9	67.1		
0	609.26*	12139	1061	2.18	609.00	604	11	2.1		BI-214
0	665.41	266	730	2.31	665.20	661	9	38.8		
0	703.44	138	566	3.14	703.26	700	8	62.1		NB-94
0	720.63	85	553	4.98	720.46	716	8	98.8		
0	742.45	177	667	2.28	742.29	737	10	56.6		
0	768.18	1110	746	2.41	768.04	763	11	11.3		

AG
2/23/12

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	785.61	217	795	2.60	785.49	779	11	52.2		
0	806.29	281	672	2.16	806.18	802	10	36.8		
0	839.69	168	605	2.02	839.60	837	9	55.0		
0	869.99	56	412	5.33	869.93	867	6	117.8		NB-94
0	897.08	68	542	4.17	897.03	893	8	121.4		
0	933.74	537	517	2.04	933.73	929	9	17.6		
0	1001.14*	88	495	2.95	1001.17	996	10	97.3		PA-234M
0	1069.62	53	299	3.30	1069.70	1067	7	111.6		
0	1120.13	2302	419	2.40	1120.25	1115	12	5.5		BI-214
0	1155.19	256	389	2.17	1155.33	1150	10	31.4		
0	1172.32	48	268	4.23	1172.47	1170	8	120.4		
0	1207.15	64	286	3.78	1207.33	1204	8	94.5		
0	1237.77	881	433	2.26	1237.97	1232	13	11.8		
0	1253.15	54	216	2.65	1253.37	1250	7	94.6		
0	1280.79	210	283	2.20	1281.02	1277	9	32.4		
2	1377.33	559	196	2.37	1377.64	1373	18	11.8	5.10E-01	
2	1385.01	127	221	3.11	1385.31	1373	18	47.3		
0	1400.92	163	258	2.59	1401.23	1396	9	38.8		
0	1407.53	299	314	3.11	1407.85	1405	10	25.1		
0	1460.37	248	351	2.77	1460.73	1456	11	32.0		K-40
0	1508.58	256	380	2.81	1508.97	1504	12	32.9		
0	1584.03	116	185	1.97	1584.48	1580	10	47.8		
0	1592.92	45	148	3.11	1593.38	1591	7	94.2		
0	1599.85	42	161	3.51	1600.32	1597	8	108.8		
0	1661.06	124	112	2.89	1661.57	1656	10	36.8		
0	1694.15	52	132	3.73	1694.68	1688	15	99.6		
0	1729.19	361	76	2.64	1729.75	1725	10	13.9		
0	1764.09	1692	95	2.64	1764.67	1759	12	5.4		BI-214
0	1772.43	19	32	1.18	1773.01	1770	6	109.2		
2	1838.04	30	70	3.24	1838.68	1830	25	111.6	7.70E-01	
2	1846.97	225	56	2.68	1847.61	1830	25	17.5		
0	2076.75	20	22	6.00	2077.56	2072	11	103.6		
0	2118.40	119	35	3.02	2119.24	2113	12	27.2		
4	2143.18	11	8	3.19	2144.04	2142	16	79.6	2.67E+00	
4	2148.14	11	11	2.74	2149.00	2142	16	128.1		
0	2160.46	9	5	1.04	2161.33	2158	6	104.9		
0	2203.76	458	33	2.51	2204.66	2199	11	10.5		BI-214
0	2293.91	29	11	3.28	2294.87	2288	12	60.6		
0	2305.38	9	2	2.84	2306.35	2301	9	88.6		
0	2404.66	10	0	1.16	2405.70	2402	8	63.2		
0	2447.06	127	5	2.88	2448.14	2443	10	18.9		
0	2613.33*	19	0	3.87	2614.52	2610	8	50.2		

Sample ID : 1201163-12 Acquisition date : 22-FEB-2012 13:25:31

Total number of lines in spectrum	76	
Number of unidentified lines	39	
Number of lines tentatively identified by NID	37	48.68%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.327E+01	2.327E+01	0.781E+01	33.56	
PB-210	22.26Y	1.00	8.136E+01	8.154E+01	1.138E+01	13.95	
BI-214	1602.00Y	1.00	1.202E+02	1.202E+02	0.074E+02	6.18	
PB-214	1602.00Y	1.00	1.209E+02	1.209E+02	0.010E+03	8.24	
RN-219	3.28E+04Y	1.00	5.423E+00	5.423E+00	5.036E+00	92.87	
RA-223	3.28E+04Y	1.00	9.799E+00	9.799E+00	9.689E+00	98.88	
RA-224	1.41E+10Y	1.00	2.296E+02	2.296E+02	0.254E+02	11.07	
RA-226	1602.00Y	1.00	2.051E+02	2.051E+02	3.761E+02	183.37	
PA-234M	4.47E+09Y	1.00	6.975E+01	6.975E+01	6.847E+01	98.16	
TH-234	4.47E+09Y	1.00	3.653E+01	3.653E+01	1.035E+01	28.32	
			---------	---------			
	Total Activity :		9.020E+02	9.022E+02			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
NB-94	20300.00Y	1.00	5.272E-01	5.272E-01	3.092E-01	58.65	
NB-95M	3.61D	136.	3.698E+00	5.025E+02	2.344E+02	46.64	
LU-173	1.37Y	1.04	9.626E+00	9.974E+00	3.280E+00	32.89	
			---------	---------			
	Total Activity :		1.385E+01	5.130E+02			

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CD-109	464.00D	1.04	9.044E+01	9.396E+01	1.638E+01	17.43	
SN-126	1.00E+05Y	1.00	9.089E+00	9.089E+00	1.487E+00	16.36	
CE-141	32.50D	1.73	1.106E+00	1.908E+00	1.225E+00	64.21	
NP-237	2.14E+06Y	1.00	2.666E+01	2.666E+01	0.434E+01	16.28	
			---------	---------			
	Total Activity :		1.273E+02	1.316E+02			

Grand Total Activity : 1.043E+03 1.547E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
K-40	1460.81	10.67*	1.798E-01	2.327E+01	2.327E+01	33.56	OK
	Final Mean for 1 Valid Peaks = 2.327E+01+/- 7.810E+00 (33.56%)						
PB-210	46.50	4.25*	1.407E+00	8.136E+01	8.154E+01	13.95	OK
	Final Mean for 1 Valid Peaks = 8.154E+01+/- 1.138E+01 (13.95%)						
BI-214	609.31	46.30*	4.029E-01	1.173E+02	1.173E+02	11.73	OK
	1120.29	15.10	2.230E-01	1.233E+02	1.233E+02	13.04	OK
	1764.49	15.80	1.582E-01	1.221E+02	1.221E+02	10.95	OK
	2204.22	4.98	1.404E-01	1.181E+02	1.181E+02	14.59	OK
	Final Mean for 4 Valid Peaks = 1.202E+02+/- 7.432E+00 (6.18%)						
PB-214	295.21	19.19	8.368E-01	1.208E+02	1.208E+02	10.96	OK
	351.92	37.19*	7.067E-01	1.211E+02	1.211E+02	12.50	OK
	Final Mean for 2 Valid Peaks = 1.209E+02+/- 9.969E+00 (8.24%)						
RN-219	401.80	6.50*	6.189E-01	5.423E+00	5.423E+00	92.87	OK
	Final Mean for 1 Valid Peaks = 5.423E+00+/- 5.036E+00 (92.87%)						
RA-223	323.87	3.88*	7.663E-01	9.799E+00	9.799E+00	98.88	OK
	Final Mean for 1 Valid Peaks = 9.799E+00+/- 9.689E+00 (98.88%)						
RA-224	240.98	3.95*	1.004E+00	2.296E+02	2.296E+02	11.07	OK
	Final Mean for 1 Valid Peaks = 2.296E+02+/- 2.542E+01 (11.07%)						
RA-226	186.21	3.28*	1.229E+00	2.051E+02	2.051E+02	183.37	OK
	Final Mean for 1 Valid Peaks = 2.051E+02+/- 3.761E+02 (183.37%)						
PA-234M	1001.03	0.92*	2.467E-01	6.975E+01	6.975E+01	98.16	OK
	Final Mean for 1 Valid Peaks = 6.975E+01+/- 6.847E+01 (98.16%)						
TH-234	63.29	3.80*	1.639E+00	3.653E+01	3.653E+01	28.32	OK
	Final Mean for 1 Valid Peaks = 3.653E+01+/- 1.035E+01 (28.32%)						

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Nuclide Type: ACTIVATION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
NB-94	702.63	100.00	3.482E-01	7.126E-01	7.126E-01	62.98	OK
	871.10	100.00*	2.813E-01	3.597E-01	3.597E-01	118.60	OK

Final Mean for 2 Valid Peaks = 5.272E-01+/- 3.092E-01 (58.65%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
NB-95M	235.69	25.00*	1.023E+00	3.698E+00	5.025E+02	46.64	OK

Final Mean for 1 Valid Peaks = 5.025E+02+/- 2.344E+02 (46.64%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
LU-173	100.72	5.24	1.657E+00	-----	Line Not Found	-----	Absent
	272.11	21.20*	9.019E-01	9.626E+00	9.974E+00	32.89	OK

Final Mean for 1 Valid Peaks = 9.974E+00+/- 3.280E+00 (32.89%)

Nuclide Type: FISSION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
CD-109	88.03	3.72*	1.693E+00	9.044E+01	9.396E+01	17.43	OK

Final Mean for 1 Valid Peaks = 9.396E+01+/- 1.638E+01 (17.43%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
SN-126	87.57	37.00*	1.693E+00	9.089E+00	9.089E+00	16.36	OK

Final Mean for 1 Valid Peaks = 9.089E+00+/- 1.487E+00 (16.36%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
CE-141	145.44	48.40*	1.436E+00	1.106E+00	1.908E+00	64.21	OK

Final Mean for 1 Valid Peaks = 1.908E+00+/- 1.225E+00 (64.21%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
NP-237	86.50	12.60*	1.695E+00	2.666E+01	2.666E+01	16.28	OK

Final Mean for 1 Valid Peaks = 2.666E+01+/- 4.342E+00 (16.28%)

Flag: "*" = Keyline

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.327E+01	7.810E+00	7.182E+00	6.752E-01	3.240
NB-94	5.272E-01	3.092E-01	7.028E-01	9.026E-02	0.750
NB-95M	5.025E+02	2.344E+02	2.691E+02	2.480E+01	1.867
CD-109	9.396E+01	1.638E+01	1.444E+01	1.695E+00	6.507
SN-126	9.089E+00	1.487E+00	1.397E+00	1.408E-01	6.508
CE-141	1.908E+00	1.225E+00	1.746E+00	4.030E-01	1.092
LU-173	9.974E+00	3.280E+00	2.475E+00	2.309E-01	4.029
PB-210	8.154E+01	1.138E+01	1.157E+01	9.630E-01	7.049
BI-214	1.202E+02	7.432E+00	1.228E+00	1.330E-01	97.872
PB-214	1.209E+02	9.969E+00	1.424E+00	1.662E-01	84.949
RN-219	5.423E+00	5.036E+00	8.951E+00	1.169E+00	0.606
RA-223	9.799E+00	9.689E+00	1.354E+01	1.455E+00	0.724
RA-224	2.296E+02	2.542E+01	1.278E+01	1.182E+00	17.959
RA-226	2.051E+02	3.761E+02	1.582E+01	2.898E+01	12.964
PA-234M	6.975E+01	6.847E+01	7.530E+01	9.467E+00	0.926
TH-234	3.653E+01	1.035E+01	1.342E+01	1.018E+00	2.721
NP-237	2.666E+01	4.342E+00	4.096E+00	4.076E-01	6.510

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	3.256E-01		4.815E+00	7.422E+00	9.628E-01	0.044
NA-22	8.181E-02		4.594E-01	7.044E-01	6.790E-02	0.116
AL-26	2.071E-01		2.508E-01	4.728E-01	4.031E-02	0.438
TI-44	8.023E-01	+	1.920E-01	5.912E-01	4.718E-02	1.357
SC-46	-3.450E-01		5.958E-01	8.826E-01	1.161E-01	-0.391
V-48	3.798E-01		1.269E+00	2.206E+00	2.809E-01	0.172
CR-51	-2.905E+00		6.986E+00	1.001E+01	1.101E+00	-0.290
MN-54	3.873E-01		4.713E-01	7.372E-01	9.002E-02	0.525
CO-56	8.718E-02		5.658E-01	8.671E-01	1.077E-01	0.101
CO-57	-1.190E-01		3.261E-01	5.338E-01	4.919E-02	-0.223
CO-58	3.506E-02		5.395E-01	8.260E-01	9.753E-02	0.042
FE-59	2.034E-01		1.077E+00	1.870E+00	2.238E-01	0.109
CO-60	4.098E-01	+	4.955E-01	7.070E-01	7.283E-02	0.580
ZN-65	6.961E+00		1.491E+00	2.253E+00	2.525E-01	3.090
GA-67	1.147E+03	+	4.045E+03	3.254E+02	1.145E+03	3.526
SE-75	-5.478E-01		8.621E-01	9.632E-01	9.029E-02	-0.569
RB-82	-4.891E+00		8.727E+00	9.303E+00	1.042E+00	-0.526
RB-83	3.635E-01		9.895E-01	1.438E+00	2.603E-01	0.253
KR-85	1.257E+02		8.918E+01	1.319E+02	1.666E+01	0.953
SR-85	7.192E-01		5.102E-01	7.543E-01	9.533E-02	0.953
Y-88	2.835E-01		3.556E-01	6.556E-01	5.533E-02	0.432
NB-93M	1.110E+02		4.708E+01	2.033E+01	8.347E+00	5.461
NB-95	8.713E+00		1.345E+00	1.681E+00	1.853E-01	5.182
ZR-95	4.291E-01		9.077E-01	1.483E+00	1.715E-01	0.289
RU-103	-2.571E-01		6.234E-01	9.458E-01	1.612E-01	-0.272
RU-106	-2.472E-01		3.459E+00	5.585E+00	8.172E-01	-0.044

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AG-108M	1.933E-01		4.269E-01	6.643E-01	6.830E-02	0.291
AG-110M	-3.217E-01		4.251E-01	6.322E-01	5.929E-02	-0.509
SN-113	5.903E-01		6.960E-01	1.017E+00	1.342E-01	0.580
TE123M	6.404E-01		4.610E-01	6.791E-01	5.890E-02	0.943
SB-124	3.260E-02		5.644E-01	8.104E-01	8.913E-02	0.040
I-125	-7.552E+00		7.060E+00	1.155E+01	1.228E+00	-0.654
SB-125	1.814E+00	+	1.448E+00	2.044E+00	2.705E-01	0.887
SB-126	3.489E+00	+	3.468E+00	4.689E+00	4.802E-01	0.744
SB-127	2.481E+01		9.192E+01	1.606E+02	1.549E+01	0.154
I-129	1.445E-01		7.140E-01	1.192E+00	1.580E-01	0.121
I-131	-2.708E+00		3.504E+00	5.581E+00	6.749E-01	-0.485
TE-132	9.667E+00		9.079E+01	1.322E+02	1.212E+01	0.073
BA-133	1.616E+01		2.698E+00	1.488E+00	2.302E-01	10.862
CS-134	8.005E+00		1.095E+00	1.087E+00	1.191E-01	7.366
CS-135	7.604E+00		2.243E+00	3.436E+00	3.204E-01	2.213
CS-136	2.681E-02		1.937E+00	3.345E+00	4.100E-01	0.008
CS-137	6.527E-01		4.528E-01	7.210E-01	6.678E-02	0.905
LA-138	-2.789E-01		6.582E-01	1.110E+00	1.019E-01	-0.251
CE-139	-4.429E-02		4.252E-01	6.951E-01	5.944E-02	-0.064
BA-140	2.047E+00		5.577E+00	9.029E+00	3.096E+00	0.227
LA-140	4.206E+00		2.553E+00	3.315E+00	2.993E-01	1.269
CE-144	-1.206E+00		2.696E+00	4.403E+00	3.985E-01	-0.274
PM-144	3.483E-01		3.916E-01	6.181E-01	6.081E-02	0.563
PM-145	-1.944E+00		1.984E+00	2.504E+00	1.635E+00	-0.777
PM-146	2.026E+00	+	1.125E+00	1.464E+00	1.916E-01	1.384
ND-147	4.805E+00		1.291E+01	2.106E+01	2.614E+00	0.228
EU-152	1.958E+01	+	5.452E+00	7.294E+00	8.289E-01	2.685
GD-153	-1.673E+00		1.345E+00	1.932E+00	1.866E-01	-0.866
EU-154	1.796E-01		1.274E+00	1.950E+00	1.880E-01	0.092
EU-155	1.098E+01	+	1.788E+00	1.915E+00	1.905E-01	5.734
EU-156	-5.686E+00		1.295E+01	1.931E+01	4.679E+00	-0.294
HO-166M	1.759E-01		9.577E-01	1.084E+00	1.094E-01	0.162
HF-172	2.511E+00		2.417E+00	3.986E+00	3.650E-01	0.630
LU-172	6.389E+00		9.223E+00	1.624E+01	1.868E+00	0.394
HF-175	-4.156E-01		5.864E-01	8.310E-01	9.464E-02	-0.500
LU-176	-3.884E-01		3.351E-01	5.306E-01	5.410E-02	-0.732
TA-182	6.232E+01	+	8.121E+00	6.388E+00	7.100E-01	9.756
IR-192	3.796E-02		1.017E+00	1.464E+00	1.908E-01	0.026
HG-203	-3.073E-02		6.706E-01	9.713E-01	9.277E-02	-0.032
BI-207	4.698E-01	+	4.101E-01	5.967E-01	7.010E-02	0.787
TL-208	1.978E+00		1.371E+00	2.034E+00	2.331E-01	0.972
BI-210M	2.371E-01		9.843E-01	1.130E+00	1.053E-01	0.210
PB-211	1.306E+01		1.441E+01	2.103E+01	2.749E+00	0.621
BI-212	1.907E+00		3.203E+00	5.012E+00	5.189E-01	0.381
PB-212	1.038E+01		1.316E+00	1.472E+00	1.359E-01	7.050
RA-225	8.798E+00		3.749E+00	5.578E+00	5.251E-01	1.577
TH-227	8.049E+00	+	3.754E+00	4.691E+00	4.323E-01	1.716
AC-228	1.080E+00		1.585E+00	2.769E+00	3.668E-01	0.390

Sample ID : 1201163-12
Acquisition date : 22-FEB-2012 13:25:31

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	2.047E+02	+	4.896E+01	1.509E+02	1.201E+01	1.356
PA-231	2.245E+01		1.526E+01	2.249E+01	2.263E+00	0.999
TH-231	-1.689E+00		3.502E+00	5.797E+00	9.657E-01	-0.291
PA-233	5.043E-01		1.561E+00	2.543E+00	5.894E-01	0.198
PA-234	-4.321E-02		1.324E+00	2.173E+00	1.974E-01	-0.020
U-235	5.064E+00	+	3.163E+00	4.658E+00	8.222E-01	1.087
AM-241	2.370E+00		1.235E+00	1.468E+00	1.071E-01	1.615
AM-243	2.674E+01		2.667E+00	1.254E+00	1.082E-01	21.331
CM-243	3.037E+00		2.550E+00	3.750E+00	3.497E-01	0.810

Summary of Nuclide Activity
Sample ID : 1201163-12   Acquisition date : 22-FEB-2012 13:25:31

Total number of lines in spectrum	76	
Number of unidentified lines	39	
Number of lines tentatively identified by NID	37	48.68%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.327E+01	2.327E+01	0.781E+01	33.56	
PB-210	22.26Y	1.00	8.136E+01	8.154E+01	1.138E+01	13.95	
BI-214	1602.00Y	1.00	1.202E+02	1.202E+02	0.074E+02	6.18	
PB-214	1602.00Y	1.00	1.209E+02	1.209E+02	0.010E+03	8.24	
RN-219	3.28E+04Y	1.00	5.423E+00	5.423E+00	5.036E+00	92.87	
RA-223	3.28E+04Y	1.00	9.799E+00	9.799E+00	9.689E+00	98.88	
RA-224	1.41E+10Y	1.00	2.296E+02	2.296E+02	0.254E+02	11.07	
RA-226	1602.00Y	1.00	2.051E+02	2.051E+02	3.761E+02	183.37	
PA-234M	4.47E+09Y	1.00	6.975E+01	6.975E+01	6.847E+01	98.16	
TH-234	4.47E+09Y	1.00	3.653E+01	3.653E+01	1.035E+01	28.32	
			---------	---------			
	Total Activity :		9.020E+02	9.022E+02			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
NB-94	20300.00Y	1.00	5.272E-01	5.272E-01	3.092E-01	58.65	
NB-95M	3.61D	136.	3.698E+00	5.025E+02	2.344E+02	46.64	
LU-173	1.37Y	1.04	9.626E+00	9.974E+00	3.280E+00	32.89	
			---------	---------			
	Total Activity :		1.385E+01	5.130E+02			

Nuclide Type : FISSION

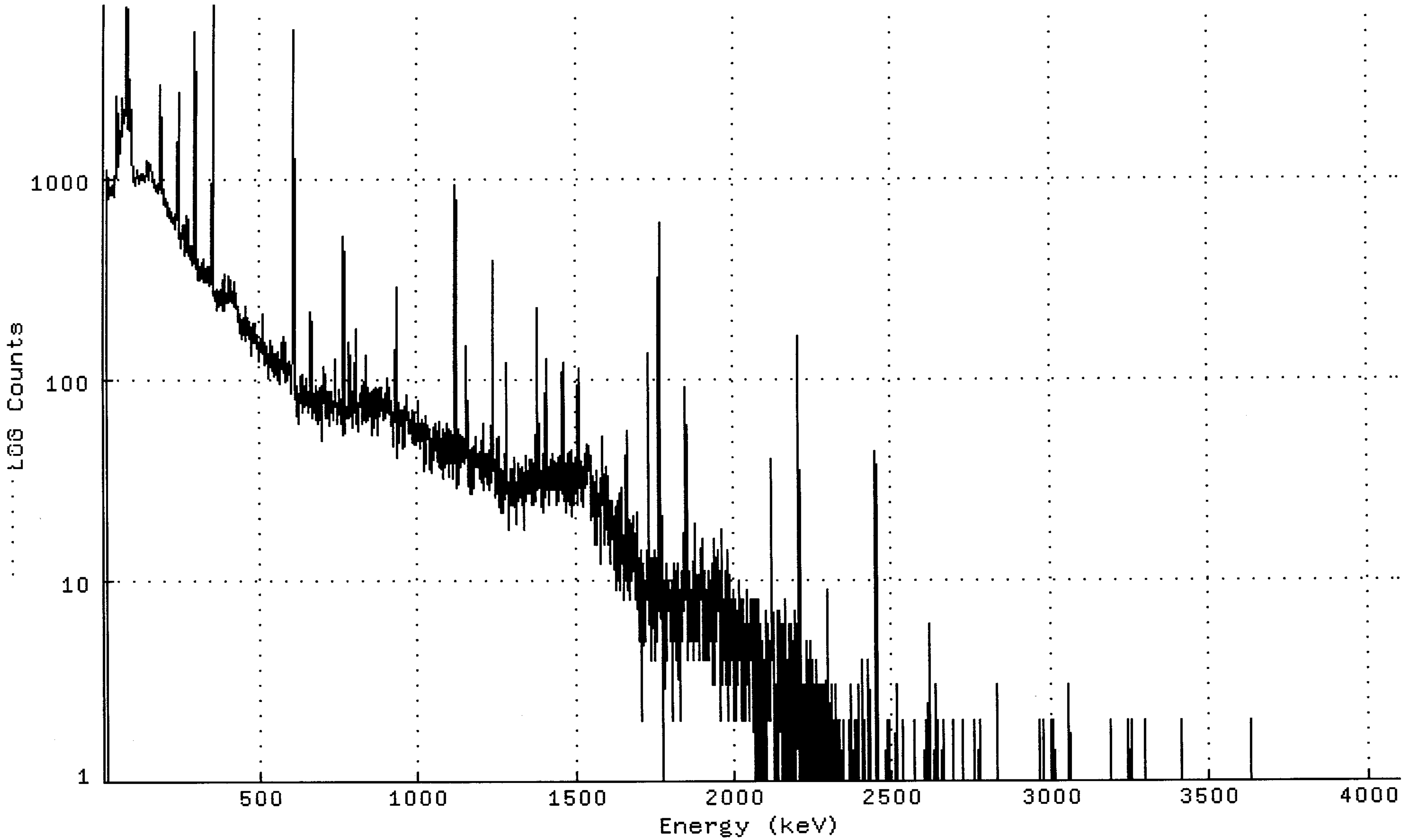
Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/GRAM	Wtd Mean Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CD-109	464.00D	1.04	9.044E+01	9.396E+01	1.638E+01	17.43	
SN-126	1.00E+05Y	1.00	9.089E+00	9.089E+00	1.487E+00	16.36	
CE-141	32.50D	1.73	1.106E+00	1.908E+00	1.225E+00	64.21	
NP-237	2.14E+06Y	1.00	2.666E+01	2.666E+01	0.434E+01	16.28	
			---------	---------			
	Total Activity :		1.273E+02	1.316E+02			

Grand Total Activity : 1.043E+03   1.547E+03

Flags: "K" = Keyline not found   "M" = Manually accepted
"E" = Manually edited   "A" = Nuclide specific abn. limit

Spectrum : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116312_GE4_GAS1102_176265.CNF;1
Title :
Sample Title: JM-82-31-120128

Start Time:	22-FEB-2012 13:25	Sample Time:	28-JAN-2012 00:00	Energy Offset:	6.91748E-01
Real Time :	0 01:00:17.23	Sample ID :	1201163-12	Energy Slope :	9.99279E-01
Live Time :	0 01:00:00.00	Sample Type:	SOLID	Energy Quad :	0.00000E+00



0269

Channel Contents for DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116312_GE4_GAS1102_1762

Channel

1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	6	894	1098
17:	937	968	895	923	872	802	866	841
25:	880	902	851	831	848	829	895	935
33:	851	865	824	955	946	997	946	1018
41:	1080	1020	1074	1285	1824	2564	1726	1160
49:	1298	1380	1304	1591	1759	1397	1374	1356
57:	1413	1539	1691	1764	1916	2378	2503	2066
65:	1897	1961	2207	2095	1954	1994	2095	2119
73:	3033	5306	5296	7064	6903	3112	2079	1960
81:	1841	1779	2102	1992	1730	2792	3097	2067
89:	1929	1779	1696	2225	1783	1401	1249	1085
97:	1020	1095	1035	1034	987	937	962	982
105:	1006	1002	1014	1017	1061	1098	1083	1076
113:	1066	1034	1001	1012	1031	960	939	1021
121:	985	1035	1043	1029	1055	998	1039	1047
129:	995	998	1042	1025	978	1023	1014	996
137:	1002	1042	1049	1052	1075	1081	1221	1213
145:	1154	1000	1091	1066	1087	1113	1155	1122
153:	1157	1189	1133	1048	974	983	1064	960
161:	994	997	981	906	939	969	938	936
169:	920	897	875	892	887	859	854	877
177:	853	952	934	890	933	899	970	1237
185:	2545	2921	1403	883	867	864	887	849
193:	882	826	791	898	834	744	783	735
201:	796	748	750	764	769	719	701	710
209:	699	656	701	714	680	636	636	674
217:	680	609	621	664	622	625	618	634
225:	613	603	644	615	595	570	655	560
233:	589	594	757	733	631	673	666	944
241:	2498	2669	1057	511	502	516	534	513
249:	468	450	466	477	514	511	590	552
257:	526	575	588	485	449	470	480	417
265:	440	435	479	562	642	659	612	503
273:	507	549	511	460	415	402	467	451
281:	429	420	451	427	459	439	421	426
289:	377	421	379	412	866	3620	5440	2203
297:	524	357	384	410	381	385	395	353
305:	346	316	334	366	317	342	339	336
313:	355	382	332	349	355	332	322	333
321:	306	372	396	358	322	332	306	330
329:	355	353	329	329	331	337	332	308
337:	366	364	327	293	309	332	332	298
345:	346	348	331	340	440	2052	7027	7451
353:	2028	320	262	278	262	278	252	248
361:	258	230	247	243	248	243	222	281
369:	232	240	247	272	276	234	243	264
377:	282	238	245	269	259	259	224	264
385:	296	295	332	286	319	282	223	240
393:	257	272	254	265	243	251	276	278
401:	316	328	242	286	313	286	272	285
409:	287	248	260	266	242	240	275	274
417:	270	231	248	304	277	261	242	229
425:	261	271	246	248	218	215	193	232

433:	209	200	188	212	201	191	212	180
441:	161	185	191	184	176	200	173	178
449:	184	177	167	192	221	233	223	205
457:	187	157	172	195	202	204	196	174
465:	167	160	194	179	170	181	164	179
473:	172	183	132	168	184	156	158	191
481:	184	155	160	158	153	192	189	187
489:	168	144	167	149	153	145	158	149
497:	150	127	124	145	136	139	152	141
505:	159	143	139	179	185	213	194	172
513:	136	152	128	119	119	124	138	134
521:	125	148	120	130	131	121	128	129
529:	136	102	117	128	146	156	115	133
537:	117	138	146	129	111	133	136	135
545:	118	116	123	104	123	121	121	107
553:	134	132	114	122	103	126	120	139
561:	101	99	119	113	126	124	96	106
569:	127	142	122	155	129	113	128	132
577:	109	122	148	165	143	142	124	136
585:	98	114	121	115	99	113	101	112
593:	120	116	123	120	110	105	119	85
601:	114	118	116	106	132	130	523	2960
609:	5488	3090	516	94	83	80	89	106
617:	72	93	79	93	66	82	81	85
625:	86	85	61	84	77	86	89	100
633:	84	103	68	83	92	73	79	93
641:	105	84	83	74	84	75	89	82
649:	85	102	81	75	87	71	88	80
657:	77	73	69	98	84	80	73	155
665:	218	173	80	69	64	83	73	83
673:	82	79	85	69	81	78	79	87
681:	63	94	70	88	77	86	61	88
689:	78	66	63	78	92	92	75	94
697:	78	75	75	50	80	110	116	105
705:	86	80	77	78	79	105	64	69
713:	80	74	67	73	65	79	87	88
721:	84	84	78	59	80	76	82	88
729:	69	73	75	69	71	76	72	78
737:	64	63	84	90	90	126	111	79
745:	77	60	66	73	72	72	67	81
753:	81	79	89	76	69	68	80	70
761:	80	60	73	53	82	121	304	512
769:	372	130	77	78	54	84	65	64
777:	73	68	66	67	73	79	64	95
785:	147	155	116	79	71	84	77	74
793:	58	70	72	75	83	88	73	71
801:	86	68	76	99	147	178	104	77
809:	61	78	65	55	72	64	66	76
817:	76	73	74	77	83	86	77	74
825:	78	94	80	66	61	74	69	97
833:	86	63	74	69	62	104	133	97
841:	78	85	81	70	63	74	91	70
849:	86	66	68	83	80	62	63	80
857:	53	62	88	74	77	81	58	90
865:	71	84	65	92	83	82	70	76
873:	53	70	90	66	76	66	72	91
881:	87	74	68	85	91	72	71	77
889:	84	63	69	72	63	71	77	85
897:	85	85	79	65	71	92	71	90
905:	82	68	101	80	79	92	76	77

913:	67	83	75	74	68	74	59	60
921:	64	56	65	47	66	62	77	72
929:	62	76	69	106	191	288	151	70
937:	41	57	75	49	71	65	69	76
945:	59	66	68	70	60	63	67	71
953:	46	69	65	55	48	56	55	70
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969:	59	67	64	68	54	55	57	58
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985:	64	49	61	55	55	69	51	48
993:	56	50	51	48	49	56	66	57
1001:	79	60	58	59	52	47	60	54
1009:	59	57	46	53	50	63	54	55
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1249:	30	34	27	41	51	52	39	26
1257:	34	34	23	30	36	30	22	31
1265:	32	22	31	31	24	35	24	26
1273:	27	43	36	39	39	26	48	98
1281:	122	67	38	33	22	30	31	18
1289:	26	26	34	24	36	26	32	30
1297:	29	33	36	30	24	36	27	33
1305:	41	27	37	23	31	30	30	28
1313:	25	19	38	25	34	26	32	38
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1329:	28	24	24	37	18	34	31	32
1337:	26	31	25	34	28	42	35	25
1345:	33	29	32	34	27	35	31	27
1353:	33	40	35	33	26	29	40	27
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1385:	60	61	34	33	24	23	24	35

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1409:	103	57	28	35	33	24	37	31
1417:	30	40	38	28	28	40	28	40
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1441:	25	34	32	39	41	34	25	31
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1473:	37	37	30	25	30	42	44	35
1481:	24	30	28	31	27	27	21	34
1489:	45	33	34	36	38	25	24	29
1497:	41	35	31	31	27	32	41	24
1505:	37	48	55	76	112	102	58	36
1513:	31	32	25	37	27	37	38	39
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1609:	25	24	12	25	18	22	21	16
1617:	22	19	16	21	15	16	14	9
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1633:	14	10	16	9	17	27	16	13
1641:	13	12	18	16	14	12	17	29
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1657:	12	11	15	36	50	55	29	9
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1673:	16	11	15	17	19	10	15	11
1681:	13	12	16	21	14	12	9	8
1689:	12	15	10	18	20	22	19	10
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1705:	7	14	14	2	11	9	9	9
1713:	10	12	8	6	5	6	8	9
1721:	11	10	10	12	8	10	20	49
1729:	106	135	74	23	7	5	6	13
1737:	11	8	4	8	13	6	11	10
1745:	9	6	8	14	4	6	12	6
1753:	8	13	8	9	5	11	7	12
1761:	10	54	229	465	605	305	69	17
1769:	10	4	10	21	6	9	1	8
1777:	7	10	9	3	6	9	7	12
1785:	6	4	11	8	7	10	7	7
1793:	10	8	7	7	5	7	6	4
1801:	6	2	6	10	6	7	5	9
1809:	9	12	5	10	11	4	6	6
1817:	9	12	12	6	8	11	5	5
1825:	2	9	8	7	7	7	8	7
1833:	11	6	5	7	15	14	17	17
1841:	7	9	8	8	12	36	69	91
1849:	39	16	6	13	6	4	10	8
1857:	11	11	8	5	8	8	9	5
1865:	8	7	7	4	7	5	5	8

1873:	19	15	16	9	5	13	9	8
1881:	6	5	7	10	10	4	7	8
1889:	10	9	13	9	11	8	13	13
1897:	16	12	11	11	4	8	7	7
1905:	9	9	4	11	6	9	9	7
1913:	7	6	4	7	6	4	11	6
1921:	9	7	5	8	10	7	7	7
1929:	8	3	12	8	8	6	3	10
1937:	14	11	16	10	7	13	11	7
1945:	5	14	11	9	13	8	7	11
1953:	2	11	5	2	7	8	18	7
1961:	3	7	7	8	4	6	6	6
1969:	5	5	3	9	9	9	11	8
1977:	5	3	3	2	14	8	5	3
1985:	8	3	9	4	7	5	8	7
1993:	7	5	7	5	8	9	2	5
2001:	4	4	8	2	5	6	6	6
2009:	3	7	4	7	7	6	5	4
2017:	10	5	7	3	6	8	2	3
2025:	4	7	4	2	8	6	5	3
2033:	5	4	2	6	5	6	9	3
2041:	4	4	3	5	2	6	4	4
2049:	4	4	8	7	5	8	5	6
2057:	2	8	3	3	1	1	8	4
2065:	3	4	8	4	3	7	2	1
2073:	4	7	0	3	8	5	6	3
2081:	4	1	4	4	0	5	3	3
2089:	2	4	4	4	1	4	3	1
2097:	4	3	5	7	6	1	4	2
2105:	3	3	3	6	5	3	3	5
2113:	4	2	4	4	15	40	40	28
2121:	8	6	3	0	3	6	2	2
2129:	3	3	2	1	1	0	4	1
2137:	2	2	7	3	2	3	2	7
2145:	3	1	0	4	5	6	2	6
2153:	4	1	6	3	0	0	1	2
2161:	1	8	2	2	2	4	4	3
2169:	1	2	6	0	3	3	3	3
2177:	0	6	6	4	3	2	4	5
2185:	5	1	3	4	1	2	2	7
2193:	7	3	2	4	3	4	6	2
2201:	1	16	64	163	149	65	19	6
2209:	0	2	3	2	3	2	1	2
2217:	3	0	2	3	2	0	0	1
2225:	1	4	5	2	1	3	2	0
2233:	4	1	3	2	1	2	1	2
2241:	2	5	1	4	1	3	1	0
2249:	1	0	2	2	1	3	2	2
2257:	1	4	2	3	3	0	2	1
2265:	2	3	3	0	1	2	1	1
2273:	3	1	0	1	2	2	1	2
2281:	1	3	3	0	1	1	2	2
2289:	0	1	2	5	9	8	7	1
2297:	3	2	0	0	0	1	1	0
2305:	1	2	3	3	0	1	0	2
2313:	0	0	1	0	1	2	3	0
2321:	1	0	0	2	1	2	1	2
2329:	1	2	1	1	2	1	1	0
2337:	0	1	1	0	1	2	1	0
2345:	1	0	0	0	1	1	1	0

2353:	0	0	0	0	0	1	0	0
2361:	1	2	0	0	3	0	0	0
2369:	1	0	1	1	1	1	0	1
2377:	2	1	2	0	2	2	2	1
2385:	2	0	1	0	3	0	1	1
2393:	2	0	0	1	0	0	0	1
2401:	0	0	2	1	0	4	1	2
2409:	0	0	0	0	1	0	0	0
2417:	0	0	0	2	1	1	1	4
2425:	2	0	2	1	1	0	0	1
2433:	0	1	0	1	0	1	0	1
2441:	1	0	0	1	2	4	32	44
2449:	33	13	3	0	2	0	0	0
2457:	0	1	1	1	0	0	0	0
2465:	0	1	0	0	1	0	1	0
2473:	0	0	0	0	0	0	0	2
2481:	0	1	2	0	0	1	2	1
2489:	0	0	0	0	0	1	1	0
2497:	0	0	1	1	0	1	0	1
2505:	0	1	0	0	0	3	1	0
2513:	0	0	1	0	0	0	1	0
2521:	0	0	0	0	1	1	0	1
2529:	0	0	0	2	0	1	1	0
2537:	0	0	0	0	0	0	0	0
2545:	0	0	1	0	1	0	0	0
2553:	1	0	0	0	0	0	0	0
2561:	0	0	0	0	0	0	0	2
2569:	0	1	0	0	1	1	0	0
2577:	0	0	0	0	0	0	1	1
2585:	0	0	0	0	0	0	1	0
2593:	0	0	0	1	0	0	1	0
2601:	2	0	1	2	0	0	1	0
2609:	0	0	0	0	6	5	6	6
2617:	0	0	1	1	0	1	1	0
2625:	0	0	0	0	1	1	2	0
2633:	0	0	3	0	2	0	0	1
2641:	1	1	0	0	0	1	0	0
2649:	0	0	0	0	1	1	0	2
2657:	0	0	0	1	0	0	0	0
2665:	0	0	0	0	0	0	0	0
2673:	0	1	0	0	0	0	0	1
2681:	0	0	0	1	0	1	2	0
2689:	0	1	0	1	1	0	1	1
2697:	0	1	1	0	0	1	1	0
2705:	0	0	0	1	0	1	0	0
2713:	0	0	0	0	2	0	2	0
2721:	0	0	1	0	1	0	0	0
2729:	0	0	0	0	0	0	0	0
2737:	0	1	0	0	1	0	0	1
2745:	0	0	0	0	0	0	1	0
2753:	0	0	0	0	2	0	0	0
2761:	0	0	0	0	0	0	0	0
2769:	0	0	2	1	0	0	0	0
2777:	0	0	0	1	0	0	0	1
2785:	0	0	0	0	0	0	0	0
2793:	0	1	0	0	0	0	1	0
2801:	0	0	0	1	1	1	0	0
2809:	0	0	0	0	0	1	1	0
2817:	0	0	0	0	0	0	1	0
2825:	1	0	0	3	0	0	0	0

2833:	0	0	0	0	1	0	0	0
2841:	1	0	1	0	0	1	0	0
2849:	0	1	0	0	0	0	0	0
2857:	0	0	0	0	0	0	0	0
2865:	0	0	0	1	1	0	0	0
2873:	0	0	0	1	0	0	0	1
2881:	0	1	0	0	0	1	1	1
2889:	0	0	0	1	0	1	0	0
2897:	0	0	0	0	0	0	0	0
2905:	0	0	0	0	1	0	0	0
2913:	0	0	0	1	0	0	1	0
2921:	1	0	0	0	0	0	0	0
2929:	1	0	0	1	0	0	0	0
2937:	0	1	0	1	0	0	0	0
2945:	0	0	0	0	1	0	0	0
2953:	1	0	0	0	0	0	0	0
2961:	0	0	2	0	0	0	0	0
2969:	0	0	0	0	0	0	2	0
2977:	0	0	1	0	0	1	0	0
2985:	0	0	0	0	0	0	0	0
2993:	0	1	1	0	0	0	0	2
3001:	0	0	0	0	1	0	2	0
3009:	0	0	0	1	0	0	0	0
3017:	0	1	1	0	0	0	0	0
3025:	0	0	0	0	0	0	0	0
3033:	0	0	0	1	0	0	1	0
3041:	0	0	0	0	0	0	0	0
3049:	0	1	0	0	0	1	3	0
3057:	0	0	0	0	1	0	0	0
3065:	0	0	1	0	0	0	0	0
3073:	0	0	0	0	0	0	0	0
3081:	0	0	0	1	1	1	0	0
3089:	0	0	1	0	0	0	0	0
3097:	0	0	0	0	0	0	0	0
3105:	0	0	0	0	0	0	0	0
3113:	1	0	0	0	0	0	0	0
3121:	0	0	0	0	0	1	0	0
3129:	0	0	0	0	0	0	0	1
3137:	0	0	1	0	0	0	0	0
3145:	0	0	0	0	1	0	0	0
3153:	0	0	0	0	0	0	0	1
3161:	0	0	0	0	0	0	0	0
3169:	0	0	0	0	0	0	0	0
3177:	0	0	0	1	0	1	0	0
3185:	1	0	2	0	0	0	0	0
3193:	0	1	0	0	0	0	0	0
3201:	0	0	0	0	0	0	0	0
3209:	0	0	1	0	0	0	0	0
3217:	0	0	1	0	0	0	0	0
3225:	0	0	0	0	0	1	0	1
3233:	0	0	0	0	0	0	0	0
3241:	2	0	0	0	1	0	0	0
3249:	0	2	0	1	0	0	0	0
3257:	0	0	1	0	0	0	1	0
3265:	0	0	0	0	0	0	0	0
3273:	0	0	0	0	0	0	0	0
3281:	0	0	0	0	1	0	0	0
3289:	0	0	0	0	0	2	0	0
3297:	1	1	0	0	0	0	0	0
3305:	0	0	1	1	0	1	0	0

3313:	0	0	0	1	0	0	0	0
3321:	0	0	0	0	0	0	0	0
3329:	1	0	1	0	0	0	0	0
3337:	0	0	0	0	0	1	0	0
3345:	1	1	1	0	0	0	1	0
3353:	1	0	1	0	0	0	0	0
3361:	0	0	0	0	0	1	0	1
3369:	0	1	0	0	0	0	0	0
3377:	0	0	0	1	0	0	0	0
3385:	0	0	0	0	0	0	0	0
3393:	0	0	0	0	0	0	0	0
3401:	0	0	0	1	0	0	0	0
3409:	0	0	0	2	0	0	0	0
3417:	0	0	0	0	0	1	0	0
3425:	0	0	0	0	0	0	0	0
3433:	0	0	0	0	0	0	0	1
3441:	0	0	0	0	0	0	1	0
3449:	0	1	0	1	0	0	0	1
3457:	0	0	1	1	0	0	0	1
3465:	1	0	0	0	0	0	0	0
3473:	0	0	0	0	0	0	0	0
3481:	0	1	0	0	0	0	0	0
3489:	0	0	0	0	0	0	0	0
3497:	0	0	0	0	0	0	0	0
3505:	0	0	0	0	0	0	0	0
3513:	0	0	0	0	0	0	0	0
3521:	0	0	0	0	0	0	1	1
3529:	0	0	0	0	0	0	0	0
3537:	0	0	0	0	0	0	0	0
3545:	0	1	0	0	0	0	0	0
3553:	1	0	0	0	0	0	0	0
3561:	0	1	0	0	0	0	0	0
3569:	0	0	0	0	0	0	0	0
3577:	1	0	0	0	0	0	0	0
3585:	0	0	0	0	0	0	0	1
3593:	0	0	0	0	0	0	0	0
3601:	0	0	0	0	0	1	0	0
3609:	0	1	0	0	0	0	0	0
3617:	0	1	0	0	0	0	0	0
3625:	0	0	2	0	0	0	0	0
3633:	1	0	0	0	0	0	0	0
3641:	0	0	0	0	0	0	1	0
3649:	0	0	0	0	0	0	0	0
3657:	0	0	0	0	0	1	0	0
3665:	0	0	0	0	0	0	1	0
3673:	0	1	0	0	0	1	0	0
3681:	0	0	0	0	0	0	0	0
3689:	0	1	0	0	0	0	0	0
3697:	0	0	0	0	1	0	0	0
3705:	1	0	0	0	0	0	0	0
3713:	0	0	0	0	0	0	0	0
3721:	1	0	0	0	0	0	0	0
3729:	0	0	1	0	0	0	0	1
3737:	0	0	0	0	0	0	0	0
3745:	0	1	0	0	0	0	0	0
3753:	0	1	0	0	0	0	0	0
3761:	0	0	0	0	1	0	0	0
3769:	0	0	0	0	0	1	1	0
3777:	0	0	0	0	0	0	0	0
3785:	0	0	0	0	0	1	0	0

3793:	1	0	0	0	0	0	0	0
3801:	0	0	0	0	0	0	0	0
3809:	0	0	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0
3825:	0	0	0	0	0	0	0	0
3833:	0	0	0	0	0	0	1	1
3841:	0	0	0	0	0	0	0	0
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	0	1	0	0	0
3865:	0	0	0	0	0	0	1	0
3873:	0	0	0	0	0	0	0	0
3881:	0	0	0	0	0	0	0	0
3889:	1	1	1	0	0	0	0	0
3897:	0	0	0	0	0	0	0	0
3905:	0	0	0	0	0	0	0	1
3913:	0	0	0	0	0	0	0	0
3921:	0	1	0	0	0	0	0	0
3929:	0	0	1	0	0	0	0	0
3937:	1	0	0	1	1	0	0	0
3945:	0	0	1	1	0	0	0	0
3953:	0	0	0	1	0	1	0	0
3961:	0	1	0	0	0	0	0	0
3969:	0	0	0	1	0	0	0	0
3977:	0	0	1	0	0	0	0	0
3985:	1	0	0	0	0	0	0	1
3993:	0	1	0	0	0	0	0	0
4001:	0	0	0	0	0	0	0	0
4009:	0	0	0	0	0	0	0	0
4017:	1	0	0	0	0	0	0	0
4025:	0	0	0	0	0	0	0	0
4033:	0	0	0	0	0	1	0	0
4041:	0	1	0	0	0	0	0	0
4049:	0	0	0	0	0	0	0	0
4057:	0	0	0	0	0	0	0	0
4065:	0	1	0	0	0	0	0	0
4073:	0	0	1	0	0	0	0	0
4081:	0	1	0	0	0	0	0	0
4089:	0	0	0	1	0	0	1	0

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Sample ID : 1201163-13 Acquisition date : 22-FEB-2012 13:38:17

VAX/VMS Peak Search Report Generated 22-FEB-2012 14:38:35.84

Configuration	: DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116313_GE1_GAS1102_176268.		
Analyses by	: PEAK V16.9 ENBACK V1.6 PEAKEFF V2.2		
Client ID	: JM-84-31-120128		
Deposition Date	:		
Sample Date	: 28-JAN-2012 00:00:00	Acquisition date	: 22-FEB-2012 13:38:17
Sample ID	: 1201163-13	Sample Quantity	: 4.63640E+02 gram
Sample type	: SOLID	Sample Geometry	: 0
Detector name	: GE1	Detector Geometry	: GAS-1102
Elapsed live time	: 0 01:00:00.00	Elapsed real time	: 0 01:00:03.90 0.1%
Start channel	: 5	End channel	: 4096
Sensitivity	: 2.40000	Gaussian	: 15.00000
Critical level	: Yes		

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	46.50*	775	2118	1.87	46.12	43	7	21.0		PB-210
0	53.87	114	1739	1.00	53.50	51	5	111.3		
1	60.51	98	843	1.25	60.14	59	8	74.7	4.36E+00	AM-241
1	63.50*	834	2283	1.53	63.12	59	8	18.8		TH-234
0	76.36*	4447	5145	2.99	75.99	71	10	6.7		
2	84.39*	376	1984	1.38	84.03	82	17	33.4	1.17E+02	
2	87.63	677	1826	1.34	87.27	82	17	19.0		NP-237
										SN-126
										CD-109
2	90.51	410	2050	1.58	90.14	82	17	36.8		
0	130.12	139	1782	3.63	129.77	127	7	101.8		
0	144.22*	129	1316	1.10	143.87	142	5	86.9		CE-141
0	155.79	135	1531	1.33	155.44	152	6	93.5		
0	186.45*	1988	2198	1.47	186.10	181	10	9.9		RA-226
0	211.07	126	1362	4.64	210.73	207	8	103.3		
1	236.49	168	461	1.63	236.16	235	11	35.9	2.30E+01	NB-95M
1	239.22*	992	737	1.76	238.89	235	11	10.5		PB-212
1	242.37	1323	660	1.57	242.03	235	11	8.2		RA-224
0	258.16	138	800	3.08	257.83	255	7	70.3		
0	270.98	429	1341	3.06	270.65	265	12	35.5		LU-173
0	283.77	68	640	3.63	283.44	281	6	119.1		
0	295.62*	2725	810	1.81	295.30	291	8	5.3		PB-214
0	312.30	73	492	1.96	311.98	310	6	99.2		PA-233
0	329.53	80	501	3.05	329.22	327	6	91.0		
0	339.33	208	647	1.98	339.01	335	8	44.6		AC-228
5	349.34	85	526	2.71	349.03	346	12	111.0	3.24E+00	
5	352.36*	4743	446	1.55	352.05	346	12	3.2		PB-214
0	388.64	84	449	2.88	388.33	385	7	86.7		
0	404.00	94	687	3.66	403.70	398	10	106.6		
0	463.45	67	352	1.18	463.16	459	8	100.9		
0	511.68*	223	483	2.65	511.40	505	14	45.0		
0	583.40*	320	430	1.99	583.14	577	12	28.4		TL-208
0	609.84*	3555	409	2.01	609.58	604	12	4.1		BI-214
0	664.12	160	294	5.71	663.88	658	13	46.9		
0	675.50	38	120	2.14	675.25	673	6	97.8		
0	727.70	70	175	2.05	727.46	724	8	70.3		BI-212

AG
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It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	769.07	403	227	2.08	768.84	764	11	17.6		
0	786.00	180	174	2.43	785.78	780	12	32.9		
0	795.24*	46	123	2.35	795.02	792	8	89.6		
3	806.86	98	131	2.43	806.64	801	12	43.4	4.85E+00	
0	839.94	104	188	3.38	839.73	835	10	53.2		
0	861.10*	36	132	2.67	860.89	859	7	112.9		TL-208
0	911.62*	204	197	1.94	911.43	907	10	29.3		AC-228
0	934.40	158	246	2.09	934.21	928	12	42.9		
0	963.74	38	148	2.75	963.56	961	7	111.2		
0	969.66*	100	136	2.17	969.47	967	7	43.9		AC-228
0	1001.30*	75	155	2.14	1001.12	996	10	66.6		PA-234M
3	1115.84	27	44	2.77	1115.69	1114	14	86.4	1.20E+00	ZN-65
3	1120.90	747	96	2.09	1120.75	1114	14	8.4		BI-214
4	1150.68	19	43	3.07	1150.53	1149	11	94.7	2.24E+00	
4	1155.64	88	93	2.17	1155.49	1149	11	42.0		
0	1207.48	40	68	1.42	1207.35	1204	7	76.2		
0	1238.66	274	132	2.17	1238.53	1233	11	20.2		
0	1254.96	34	92	3.27	1254.84	1251	9	108.2		
0	1282.10	96	109	2.46	1281.99	1277	12	47.8		
1	1378.23	211	49	2.40	1378.13	1374	18	18.0	2.61E+00	
1	1385.91	60	61	2.40	1385.81	1374	18	47.2		
0	1402.22	46	82	2.05	1402.13	1396	9	76.7		
4	1408.77	111	60	2.23	1408.67	1405	10	30.1	4.03E-01	
4	1412.14	19	37	2.15	1412.05	1405	10	150.4		
0	1461.46*	667	87	2.33	1461.38	1456	12	9.6		K-40
0	1511.70	60	135	2.95	1511.63	1505	15	88.3		
0	1539.10	23	47	2.65	1539.04	1537	6	100.0		
3	1583.51	38	52	3.00	1583.45	1576	16	76.3	2.22E+00	
3	1588.75	32	34	2.05	1588.70	1576	16	69.1		
0	1598.41	39	74	9.49	1598.36	1592	15	101.1		
0	1660.76	59	34	3.18	1660.72	1654	13	49.1		
0	1730.15	119	36	1.89	1730.12	1724	12	27.2		
0	1765.22*	580	49	2.38	1765.21	1761	10	9.5		BI-214
0	1848.66	84	34	2.10	1848.66	1843	11	35.1		
0	1878.06	53	23	14.55	1878.06	1867	23	54.3		
0	1948.81	24	15	3.79	1948.83	1943	12	76.5		
0	1994.29	7	7	3.29	1994.32	1990	7	137.9		
0	2081.11	8	3	2.50	2081.16	2079	5	104.4		
0	2120.52	38	25	3.16	2120.58	2112	14	63.4		
0	2149.25	9	7	1.54	2149.31	2145	7	114.9		
0	2186.18	8	3	2.69	2186.25	2183	6	98.4		
0	2204.96	163	20	2.74	2205.03	2200	13	19.3		BI-214
0	2293.89	18	15	1.47	2293.98	2289	10	94.1		
0	2447.81	56	6	2.88	2447.94	2442	10	32.2		
0	2615.26*	107	6	2.42	2615.42	2611	11	21.6		TL-208
0	2763.61	5	0	2.41	2763.80	2760	7	89.4		

Summary of Nuclide Activity
Sample ID : 1201163-13
Acquisition date : 22-FEB-2012 13:38:17

Total number of lines in spectrum	80	
Number of unidentified lines	40	
Number of lines tentatively identified by NID	40	50.00%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.015E+01	2.015E+01	0.270E+01	13.42	
TL-208	1.41E+10Y	1.00	1.457E+00	1.457E+00	0.271E+00	18.59	
PB-210	22.26Y	1.00	1.129E+01	1.132E+01	0.258E+01	22.77	
BI-212	1.41E+10Y	1.00	1.110E+00	1.110E+00	0.788E+00	70.98	
PB-212	1.41E+10Y	1.00	1.800E+00	1.800E+00	0.251E+00	13.93	
BI-214	1602.00Y	1.00	1.300E+01	1.300E+01	0.086E+01	6.61	
PB-214	1602.00Y	1.00	1.338E+01	1.338E+01	0.096E+01	7.14	
RA-224	1.41E+10Y	1.00	2.730E+01	2.730E+01	0.334E+01	12.25	
RA-226	1602.00Y	1.00	4.252E+01	4.253E+01	7.800E+01	183.42	
AC-228	1.41E+10Y	1.00	1.632E+00	1.632E+00	0.362E+00	22.20	
PA-233	27.00D	1.93	1.824E-01	3.518E-01	3.579E-01	101.75	
PA-234M	4.47E+09Y	1.00	1.983E+01	1.983E+01	1.332E+01	67.19	
TH-234	4.47E+09Y	1.00	1.232E+01	1.232E+01	0.254E+01	20.58	
AM-241	432.20Y	1.00	1.559E-01	1.559E-01	1.172E-01	75.16	
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	Total Activity :		1.661E+02	1.663E+02			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
ZN-65	244.40D	1.08	1.396E-01	1.501E-01	1.304E-01	86.87	
NB-95M	3.61D	136.	5.400E-01	7.349E+01	2.725E+01	37.08	
LU-173	1.37Y	1.04	1.784E+00	1.848E+00	0.677E+00	36.61	
			---------	---------			
	Total Activity :		2.463E+00	7.549E+01			

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CD-109	464.00D	1.04	1.005E+01	1.045E+01	0.237E+01	22.65	
SN-126	1.00E+05Y	1.00	1.011E+00	1.011E+00	0.221E+00	21.84	
CE-141	32.50D	1.73	1.663E-01	2.870E-01	2.582E-01	89.96	
NP-237	2.14E+06Y	1.00	2.965E+00	2.965E+00	0.646E+00	21.79	
			---------	---------			
	Total Activity :		1.420E+01	1.471E+01			

Grand Total Activity : 1.828E+02 2.565E+02

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
K-40	1460.81	10.67*	5.027E-01	2.015E+01	2.015E+01	13.42	OK
	Final Mean for 1 Valid Peaks = 2.015E+01+/- 2.704E+00 (13.42%)						
TL-208	583.14	30.22*	1.029E+00	1.667E+00	1.667E+00	30.12	OK
	860.37	4.48	7.505E-01	1.727E+00	1.727E+00	113.22	OK
	2614.66	35.85	3.563E-01	1.361E+00	1.361E+00	23.97	OK
	Final Mean for 3 Valid Peaks = 1.457E+00+/- 2.708E-01 (18.59%)						
PB-210	46.50	4.25*	2.613E+00	1.129E+01	1.132E+01	22.77	OK
	Final Mean for 1 Valid Peaks = 1.132E+01+/- 2.577E+00 (22.77%)						
BI-212	727.17	11.80*	8.597E-01	1.110E+00	1.110E+00	70.98	OK
	1620.62	2.75	4.684E-01	-----	Line Not Found	-----	Absent
	Final Mean for 1 Valid Peaks = 1.110E+00+/- 7.879E-01 (70.98%)						
PB-212	238.63	44.60*	2.000E+00	1.800E+00	1.800E+00	13.93	OK
	300.09	3.41	1.716E+00	-----	Line Not Found	-----	Absent
	Final Mean for 1 Valid Peaks = 1.800E+00+/- 2.508E-01 (13.93%)						
BI-214	609.31	46.30*	9.927E-01	1.252E+01	1.252E+01	10.91	OK
	1120.29	15.10	6.104E-01	1.313E+01	1.313E+01	12.40	OK
	1764.49	15.80	4.432E-01	1.341E+01	1.341E+01	13.04	OK
	2204.22	4.98	3.885E-01	1.360E+01	1.360E+01	21.58	OK
	Final Mean for 4 Valid Peaks = 1.300E+01+/- 8.589E-01 (6.61%)						
PB-214	295.21	19.19	1.736E+00	1.325E+01	1.325E+01	10.52	OK
	351.92	37.19*	1.529E+00	1.350E+01	1.350E+01	9.74	OK
	Final Mean for 2 Valid Peaks = 1.338E+01+/- 9.560E-01 (7.14%)						
RA-224	240.98	3.95*	1.987E+00	2.730E+01	2.730E+01	12.25	OK
	Final Mean for 1 Valid Peaks = 2.730E+01+/- 3.345E+00 (12.25%)						
RA-226	186.21	3.28*	2.308E+00	4.252E+01	4.253E+01	183.42	OK
	Final Mean for 1 Valid Peaks = 4.253E+01+/- 7.800E+01 (183.42%)						
AC-228	338.32	11.40	1.575E+00	1.881E+00	1.881E+00	45.51	OK
	911.07	27.70*	7.170E-01	1.667E+00	1.667E+00	30.61	OK
	969.11	16.60	6.829E-01	1.435E+00	1.435E+00	44.83	OK
	Final Mean for 3 Valid Peaks = 1.632E+00+/- 3.622E-01 (22.20%)						

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
PA-233	311.98	38.60*	1.670E+00	1.824E-01	3.518E-01	101.75	OK

Final Mean for 1 Valid Peaks = 3.518E-01+/- 3.579E-01 (101.75%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
PA-234M	1001.03	0.92*	6.658E-01	1.983E+01	1.983E+01	67.19	OK

Final Mean for 1 Valid Peaks = 1.983E+01+/- 1.332E+01 (67.19%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
TH-234	63.29	3.80*	2.884E+00	1.232E+01	1.232E+01	20.58	OK

Final Mean for 1 Valid Peaks = 1.232E+01+/- 2.535E+00 (20.58%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
AM-241	59.54	35.90*	2.848E+00	1.559E-01	1.559E-01	75.16	OK

Final Mean for 1 Valid Peaks = 1.559E-01+/- 1.172E-01 (75.16%)

Nuclide Type: ACTIVATION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
ZN-65	1115.52	50.75*	6.124E-01	1.396E-01	1.501E-01	86.87	OK

Final Mean for 1 Valid Peaks = 1.501E-01+/- 1.304E-01 (86.87%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
NB-95M	235.69	25.00*	2.015E+00	5.400E-01	7.349E+01	37.08	OK

Final Mean for 1 Valid Peaks = 7.349E+01+/- 2.725E+01 (37.08%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
LU-173	100.72	5.24	2.881E+00	-----	Line Not Found	-----	Absent
	272.11	21.20*	1.836E+00	1.784E+00	1.848E+00	36.61	OK

Final Mean for 1 Valid Peaks = 1.848E+00+/- 6.767E-01 (36.61%)

Nuclide Type: FISSION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
CD-109	88.03	3.72*	2.931E+00	1.005E+01	1.045E+01	22.65	OK

Final Mean for 1 Valid Peaks = 1.045E+01+/- 2.366E+00 (22.65%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
SN-126	87.57	37.00*	2.932E+00	1.011E+00	1.011E+00	21.84	OK

Final Mean for 1 Valid Peaks = 1.011E+00+/- 2.207E-01 (21.84%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
CE-141	145.44	48.40*	2.589E+00	1.663E-01	2.870E-01	89.96	OK

Final Mean for 1 Valid Peaks = 2.870E-01+/- 2.582E-01 (89.96%)

Sample ID : 1201163-13 Acquisition date : 22-FEB-2012 13:38:17

Nuclide Type: FISSION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
NP-237	86.50	12.60*	2.935E+00	2.965E+00	2.965E+00	21.79	OK

Final Mean for 1 Valid Peaks = 2.965E+00+/- 6.459E-01 (21.79%)

Flag: "*" = Keyline

---- Identified Nuclides ----

Nuclide	Activity (pCi/gram)	Act error	MDA (pCi/gram)	MDA error	Act/MDA
K-40	2.015E+01	2.704E+00	1.105E+00	9.365E-02	18.244
ZN-65	1.501E-01	1.304E-01	2.816E-01	2.308E-02	0.533
NB-95M	7.349E+01	2.725E+01	5.704E+01	4.671E+00	1.288
CD-109	1.045E+01	2.366E+00	2.990E+00	3.472E-01	3.494
SN-126	1.011E+00	2.207E-01	2.892E-01	2.874E-02	3.495
CE-141	2.870E-01	2.582E-01	3.782E-01	8.716E-02	0.759
LU-173	1.848E+00	6.767E-01	4.970E-01	4.039E-02	3.718
TL-208	1.457E+00	2.708E-01	3.587E-01	3.318E-02	4.061
PB-210	1.132E+01	2.577E+00	2.403E+00	1.855E-01	4.709
BI-212	1.110E+00	7.879E-01	9.072E-01	8.291E-02	1.224
PB-212	1.800E+00	2.508E-01	2.244E-01	1.837E-02	8.024
BI-214	1.300E+01	8.589E-01	2.213E-01	2.058E-02	58.737
PB-214	1.338E+01	9.560E-01	2.752E-01	2.276E-02	48.632
RA-224	2.730E+01	3.345E+00	2.551E+00	2.088E-01	10.702
RA-226	4.253E+01	7.800E+01	3.099E+00	5.675E+00	13.722
AC-228	1.632E+00	3.622E-01	4.403E-01	3.498E-02	3.706
PA-233	3.518E-01	3.579E-01	4.933E-01	1.100E-01	0.713
PA-234M	1.983E+01	1.332E+01	1.424E+01	1.154E+00	1.392
TH-234	1.232E+01	2.535E+00	3.037E+00	2.250E-01	4.056
NP-237	2.965E+00	6.459E-01	8.480E-01	8.323E-02	3.496
AM-241	1.559E-01	1.172E-01	2.999E-01	2.124E-02	0.520

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
BE-7	2.976E-01		8.158E-01	1.449E+00	1.277E-01	0.205
NA-22	1.356E-02		8.007E-02	1.257E-01	1.028E-02	0.108
AL-26	1.671E-02		4.839E-02	9.112E-02	7.278E-03	0.183
TI-44	-3.040E-02		9.578E-02	1.269E-01	9.942E-03	-0.240
SC-46	-3.236E-02		8.951E-02	1.515E-01	1.212E-02	-0.214
V-48	1.963E-01		2.250E-01	4.079E-01	3.297E-02	0.481
CR-51	-1.266E+00		1.331E+00	1.852E+00	1.614E-01	-0.684
MN-54	6.094E-02		8.148E-02	1.333E-01	1.131E-02	0.457
CO-56	2.190E-02		9.304E-02	1.474E-01	1.237E-02	0.149
CO-57	2.419E-02		7.143E-02	1.172E-01	1.131E-02	0.206
CO-58	2.210E-02		9.639E-02	1.526E-01	1.326E-02	0.145
FE-59	-7.982E-02		1.896E-01	3.173E-01	2.829E-02	-0.252
CO-60	-2.270E-02		7.599E-02	1.282E-01	1.048E-02	-0.177
GA-67	4.596E+02		1.619E+03	9.400E+01	3.309E+02	4.889
SE-75	8.581E-02		1.410E-01	1.875E-01	1.539E-02	0.458
RB-82	9.008E-01		1.264E+00	1.710E+00	1.521E-01	0.527
RB-83	-2.593E-02		1.746E-01	2.729E-01	4.330E-02	-0.095
KR-85	4.311E+01		1.564E+01	2.902E+01	2.613E+00	1.485
SR-85	2.466E-01		8.950E-02	1.660E-01	1.495E-02	1.485
Y-88	3.966E-02		5.770E-02	1.137E-01	9.031E-03	0.349
NB-93M	-8.572E+00		2.095E+00	5.152E-02	1.146E-02	-166.397
NB-94	4.258E-02		7.354E-02	1.260E-01	1.030E-02	0.338

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
NB-95	4.799E-01		1.529E-01	2.674E-01	2.394E-02	1.795
ZR-95	1.167E-02		1.614E-01	2.816E-01	2.771E-02	0.041
RU-103	-5.163E-02		9.751E-02	1.670E-01	2.396E-02	-0.309
RU-106	4.939E-01		6.036E-01	1.097E+00	1.515E-01	0.450
AG-108M	3.863E-02		7.631E-02	1.237E-01	1.133E-02	0.312
AG-110M	-2.256E-02		7.120E-02	1.094E-01	1.022E-02	-0.206
SN-113	-1.617E-02		1.195E-01	1.883E-01	1.597E-02	-0.086
TE123M	2.198E-02		9.494E-02	1.423E-01	1.178E-02	0.154
SB-124	4.026E-02		8.955E-02	1.449E-01	1.346E-02	0.278
I-125	-7.070E-01		1.248E+00	2.058E+00	1.867E-01	-0.344
SB-125	-7.258E-02		2.019E-01	3.502E-01	3.033E-02	-0.207
SB-126	5.231E-01		5.393E-01	8.984E-01	8.235E-02	0.582
SB-127	4.530E+00		1.703E+01	3.018E+01	2.802E+00	0.150
I-129	-9.125E-02		1.206E-01	1.981E-01	2.080E-02	-0.461
I-131	-1.797E-01		6.166E-01	1.077E+00	8.899E-02	-0.167
TE-132	-5.263E+00		1.681E+01	2.671E+01	2.186E+00	-0.197
BA-133	9.103E-01		1.802E-01	2.512E-01	3.259E-02	3.624
CS-134	6.289E-02		7.128E-02	1.176E-01	1.096E-02	0.535
CS-135	7.666E-01		4.198E-01	6.987E-01	5.687E-02	1.097
CS-136	-1.598E-01		3.371E-01	5.632E-01	4.743E-02	-0.284
CS-137	1.187E-01		7.636E-02	1.369E-01	1.281E-02	0.867
LA-138	2.743E-02		1.063E-01	1.878E-01	1.544E-02	0.146
CE-139	-2.463E-02		9.181E-02	1.473E-01	1.177E-02	-0.167
BA-140	2.811E-01		9.784E-01	1.713E+00	5.700E-01	0.164
LA-140	3.074E-01		3.119E-01	5.425E-01	4.450E-02	0.567
CE-144	2.011E-01		6.498E-01	9.809E-01	9.065E-02	0.205
PM-144	-3.611E-02		6.636E-02	1.123E-01	1.040E-02	-0.322
PM-145	-7.134E-02		2.834E-01	4.648E-01	3.027E-01	-0.153
PM-146	9.501E-02		1.516E-01	2.613E-01	2.266E-02	0.364
ND-147	3.200E-01		2.316E+00	4.080E+00	3.705E-01	0.078
EU-152	2.331E+00	+	7.487E-01	1.336E+00	1.414E-01	1.745
GD-153	-1.357E-01		2.776E-01	4.485E-01	4.388E-02	-0.303
EU-154	4.214E-02		2.228E-01	3.503E-01	2.867E-02	0.120
EU-155	1.221E+00	+	2.660E-01	4.416E-01	4.334E-02	2.765
EU-156	7.628E-01		2.289E+00	3.645E+00	8.332E-01	0.209
HO-166M	1.035E-02		1.143E-01	2.006E-01	1.845E-02	0.052
HF-172	-2.422E-01		5.736E-01	8.501E-01	8.087E-02	-0.285
LU-172	4.730E-01		1.682E+00	2.955E+00	2.417E-01	0.160
HF-175	2.907E-02		1.213E-01	1.570E-01	1.298E-02	0.185
LU-176	-7.734E-03		7.236E-02	1.055E-01	8.660E-03	-0.073
TA-182	6.639E+00	+	8.233E-01	1.231E+00	1.007E-01	5.394
IR-192	-6.125E-02		1.695E-01	2.628E-01	2.302E-02	-0.233
HG-203	-2.021E-02		1.479E-01	1.883E-01	1.574E-02	-0.107
BI-207	4.956E-02		6.387E-02	1.146E-01	1.056E-02	0.433
BI-210M	4.371E-02		1.637E-01	2.139E-01	1.745E-02	0.204
PB-211	3.819E+00	+	4.085E+00	3.971E+00	3.302E-01	0.962
RN-219	8.460E-01		9.946E-01	1.783E+00	1.478E-01	0.474
RA-223	1.425E+00		1.728E+00	2.622E+00	2.162E-01	0.544

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
RA-225	3.130E-01		6.882E-01	1.075E+00	8.999E-02	0.291
TH-227	1.175E+00	+	4.356E-01	1.061E+00	8.690E-02	1.107
TH-230	6.390E+00		2.406E+01	3.237E+01	2.530E+00	0.197
PA-231	9.318E-01		3.060E+00	4.539E+00	3.719E-01	0.205
TH-231	6.387E-01		6.309E-01	1.072E+00	1.310E-01	0.596
PA-234	4.108E-01	+	4.205E-01	4.955E-01	4.620E-02	0.829
U-235	7.630E-01	+	6.770E-01	1.025E+00	1.807E-01	0.745
AM-243	1.720E+00		2.165E-01	2.561E-01	2.180E-02	6.716
CM-243	3.177E-01		5.563E-01	7.353E-01	5.959E-02	0.432

Sample ID : 1201163-13 Acquisition date : 22-FEB-2012 13:38:17

Total number of lines in spectrum	80	
Number of unidentified lines	40	
Number of lines tentatively identified by NID	40	50.00%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.015E+01	2.015E+01	0.270E+01	13.42	
TL-208	1.41E+10Y	1.00	1.457E+00	1.457E+00	0.271E+00	18.59	
PB-210	22.26Y	1.00	1.129E+01	1.132E+01	0.258E+01	22.77	
BI-212	1.41E+10Y	1.00	1.110E+00	1.110E+00	0.788E+00	70.98	
PB-212	1.41E+10Y	1.00	1.800E+00	1.800E+00	0.251E+00	13.93	
BI-214	1602.00Y	1.00	1.300E+01	1.300E+01	0.086E+01	6.61	
PB-214	1602.00Y	1.00	1.338E+01	1.338E+01	0.096E+01	7.14	
RA-224	1.41E+10Y	1.00	2.730E+01	2.730E+01	0.334E+01	12.25	
RA-226	1602.00Y	1.00	4.252E+01	4.253E+01	7.800E+01	183.42	
AC-228	1.41E+10Y	1.00	1.632E+00	1.632E+00	0.362E+00	22.20	
PA-233	27.00D	1.93	1.824E-01	3.518E-01	3.579E-01	101.75	
PA-234M	4.47E+09Y	1.00	1.983E+01	1.983E+01	1.332E+01	67.19	
TH-234	4.47E+09Y	1.00	1.232E+01	1.232E+01	0.254E+01	20.58	
AM-241	432.20Y	1.00	1.559E-01	1.559E-01	1.172E-01	75.16	
			---------	---------			
	Total Activity :		1.661E+02	1.663E+02			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
ZN-65	244.40D	1.08	1.396E-01	1.501E-01	1.304E-01	86.87	
NB-95M	3.61D	136.	5.400E-01	7.349E+01	2.725E+01	37.08	
LU-173	1.37Y	1.04	1.784E+00	1.848E+00	0.677E+00	36.61	
			---------	---------			
	Total Activity :		2.463E+00	7.549E+01			

Nuclide Type : FISSION

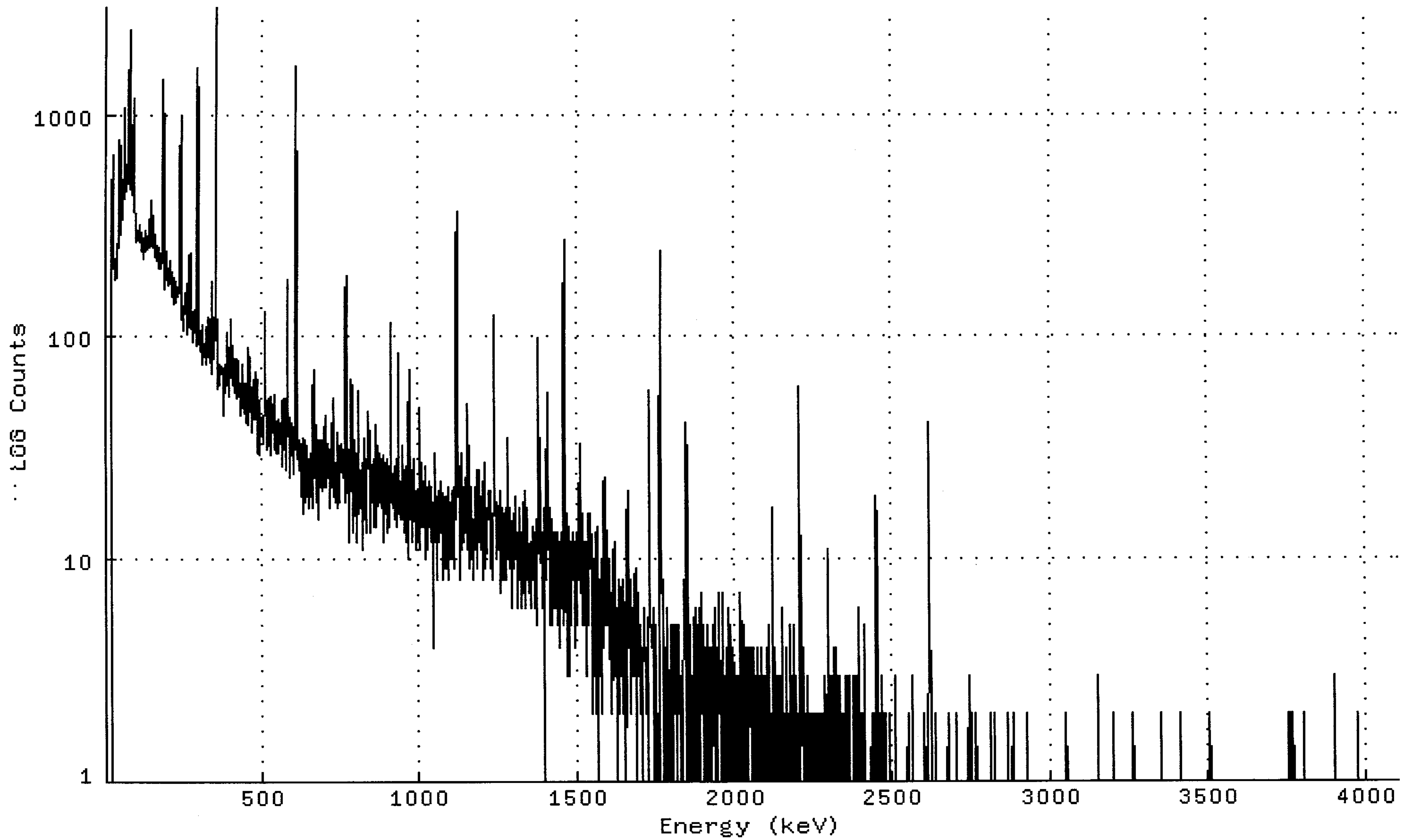
Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CD-109	464.00D	1.04	1.005E+01	1.045E+01	0.237E+01	22.65	
SN-126	1.00E+05Y	1.00	1.011E+00	1.011E+00	0.221E+00	21.84	
CE-141	32.50D	1.73	1.663E-01	2.870E-01	2.582E-01	89.96	
NP-237	2.14E+06Y	1.00	2.965E+00	2.965E+00	0.646E+00	21.79	
			---------	---------			
	Total Activity :		1.420E+01	1.471E+01			

Grand Total Activity : 1.828E+02 2.565E+02

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Spectrum : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116313_GE1_GAS1102_176268.CNF;1
Title :
Sample Title: JM-84-31-120128

Start Time:	22-FEB-2012 13:38	Sample Time:	28-JAN-2012 00:00	Energy Offset:	3.84457E-01
Real Time :	0 01:00:03.90	Sample ID :	1201163-13	Energy Slope :	9.99792E-01
Live Time :	0 01:00:00.00	Sample Type:	SOLID	Energy Quad :	0.00000E+00



Channel Contents for DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116313_GE1_GAS1102_1762

Channel

1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	0	0	0
17:	0	0	201	265	258	396	648	390
25:	219	226	241	200	215	201	178	220
33:	197	192	220	182	249	239	233	260
41:	250	266	276	296	346	752	689	294
49:	285	371	324	327	503	365	334	362
57:	367	411	411	493	482	539	1046	732
65:	486	449	522	519	507	454	498	516
73:	579	1054	1569	989	2335	994	571	508
81:	592	459	517	756	506	429	877	657
89:	447	633	459	882	1152	519	387	326
97:	300	311	321	265	277	273	268	273
105:	297	283	278	279	266	288	282	294
113:	312	276	283	237	267	247	259	222
121:	264	274	265	258	241	241	251	267
129:	299	283	283	282	256	266	268	276
137:	245	261	258	258	260	248	273	407
145:	279	252	287	301	267	284	302	249
153:	249	348	294	272	254	227	258	250
161:	241	251	248	247	252	241	232	199
169:	251	242	210	240	227	220	209	234
177:	211	200	209	214	224	230	243	229
185:	479	1415	704	254	245	221	220	162
193:	239	183	224	179	215	210	180	202
201:	185	180	168	167	180	193	172	183
209:	215	205	184	179	187	163	159	151
217:	150	138	152	145	161	182	164	162
225:	164	174	142	147	149	165	153	162
233:	162	158	156	242	197	427	714	241
241:	345	948	395	129	118	131	113	133
249:	135	113	106	132	127	133	125	146
257:	156	128	171	111	101	107	127	104
265:	111	114	112	114	190	229	233	167
273:	109	136	148	107	124	126	104	102
281:	94	128	118	131	130	107	119	105
289:	106	98	90	104	126	293	1571	1085
297:	183	92	126	164	102	105	106	85
305:	98	96	87	112	75	78	109	111
313:	87	89	91	81	86	92	86	74
321:	83	76	97	110	84	96	81	122
329:	93	120	89	76	84	92	83	83
337:	81	176	156	106	87	83	68	90
345:	93	82	83	110	99	151	884	3017
353:	1073	141	95	119	98	83	70	80
361:	58	75	62	70	66	65	60	74
369:	71	67	68	72	72	72	68	59
377:	62	72	44	59	55	60	59	68
385:	57	60	94	87	104	71	60	71
393:	53	79	62	67	88	62	78	65
401:	81	119	71	82	91	72	60	67
409:	72	88	72	55	72	61	70	73
417:	67	52	79	68	67	66	53	77
425:	70	53	54	60	50	55	55	44

433:	60	61	51	75	47	51	53	49
441:	45	52	56	49	61	52	61	41
449:	55	46	48	43	48	44	89	40
457:	45	50	42	54	46	52	81	47
465:	49	48	37	44	53	48	59	57
473:	45	53	50	42	59	69	42	60
481:	55	42	48	38	30	45	63	56
489:	46	44	36	51	40	29	34	36
497:	42	41	37	43	43	35	35	42
505:	33	44	42	45	55	93	128	91
513:	62	43	46	39	39	33	31	42
521:	46	52	32	42	40	53	29	50
529:	42	39	32	45	49	46	41	37
537:	37	54	40	38	31	33	45	38
545:	32	38	41	31	37	30	32	34
553:	42	33	30	36	37	37	33	38
561:	35	41	38	26	33	35	33	50
569:	52	41	31	36	42	48	25	41
577:	37	37	42	52	46	55	177	167
585:	48	41	30	23	43	31	33	25
593:	41	37	35	33	29	31	29	24
601:	39	32	29	36	36	31	65	192
609:	1521	1614	278	56	53	53	41	30
617:	26	25	34	31	27	26	32	25
625:	21	23	19	31	35	27	22	32
633:	16	25	18	21	25	21	28	34
641:	19	29	19	22	24	24	32	21
649:	20	28	17	28	22	28	25	20
657:	19	22	30	17	47	58	23	24
665:	52	70	35	29	23	24	25	28
673:	20	30	40	32	21	15	20	23
681:	31	21	34	34	23	21	25	23
689:	28	29	20	24	21	34	24	25
697:	21	21	29	39	26	34	38	44
705:	34	32	21	33	26	32	23	24
713:	27	19	17	28	18	29	24	41
721:	22	31	21	24	24	24	49	52
729:	29	24	19	24	20	24	18	27
737:	24	25	29	31	17	22	37	33
745:	32	19	24	18	20	32	30	26
753:	28	33	25	25	23	31	25	24
761:	28	23	24	20	18	35	54	150
769:	184	58	28	27	35	21	18	24
777:	31	25	12	17	23	21	27	24
785:	35	63	57	28	23	23	13	16
793:	17	25	34	26	22	20	12	20
801:	12	23	30	16	16	57	50	23
809:	29	28	19	18	25	23	17	24
817:	20	15	11	19	27	22	12	21
825:	25	31	35	15	25	13	25	27
833:	28	21	21	30	27	28	37	32
841:	46	31	27	13	21	22	32	22
849:	19	18	18	24	23	28	14	25
857:	22	26	16	40	30	34	16	21
865:	14	21	20	32	21	24	18	30
873:	21	23	21	18	22	22	17	28
881:	20	18	24	26	27	22	21	12
889:	29	17	26	26	21	16	27	27
897:	13	28	17	27	18	14	26	24
905:	21	17	18	26	18	27	115	94

913:	39	27	17	24	19	21	20	18
921:	20	20	15	21	26	15	24	14
929:	23	28	23	22	34	84	71	36
937:	31	16	22	22	15	21	19	20
945:	21	17	19	15	32	17	25	20
953:	18	17	15	14	12	18	26	17
961:	17	20	32	28	47	32	10	39
969:	66	70	23	15	18	19	20	18
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985:	21	19	11	17	20	16	18	18
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1001:	47	35	25	19	11	20	18	27
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1017:	20	18	11	20	10	22	26	13
1025:	12	11	17	16	21	15	17	22
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1049:	17	17	12	16	30	8	17	15
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1073:	19	8	14	18	18	12	19	13
1081:	9	13	18	9	13	13	13	13
1089:	19	8	18	21	15	18	15	15
1097:	14	15	18	15	10	10	14	15
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1113:	9	12	22	15	22	20	67	234
1121:	357	141	28	22	25	19	20	22
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1169:	10	14	8	15	15	11	21	13
1177:	18	18	11	13	18	25	21	9
1185:	22	19	16	25	14	12	18	13
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1201:	12	13	8	11	15	15	12	27
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1217:	17	17	20	19	16	17	15	17
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1233:	10	16	14	17	35	106	123	43
1241:	16	16	10	14	11	18	17	15
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1257:	11	11	7	11	13	8	10	16
1265:	17	9	15	12	14	8	16	9
1273:	13	10	17	8	9	10	16	19
1281:	35	35	18	10	16	13	15	9
1289:	10	17	13	10	8	6	13	8
1297:	10	15	15	10	16	9	14	19
1305:	18	11	10	10	12	9	6	7
1313:	12	13	13	13	17	13	10	8
1321:	13	6	7	10	8	8	7	18
1329:	10	8	11	7	12	7	12	20
1337:	6	10	8	10	13	13	11	17
1345:	8	7	10	9	9	10	10	12
1353:	7	9	7	6	11	10	8	8
1361:	14	13	10	12	13	6	13	8
1369:	7	6	9	15	5	6	9	12
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1393:	10	9	14	1	10	6	17	8
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1465:	14	8	4	11	6	3	16	11
1473:	7	14	8	6	3	10	7	6
1481:	8	11	5	12	8	8	10	9
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1521:	7	7	8	10	12	5	6	12
1529:	12	5	3	9	8	14	12	7
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1569:	14	3	8	7	7	7	7	5
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1593:	15	12	5	6	5	9	10	10
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1609:	5	6	2	4	8	6	4	8
1617:	11	6	3	9	8	12	5	5
1625:	1	6	3	5	5	3	5	2
1633:	7	7	8	7	7	4	4	6
1641:	3	7	2	5	3	6	3	8
1649:	5	3	2	2	1	1	3	4
1657:	3	5	2	14	20	17	12	4
1665:	4	4	5	8	2	3	5	4
1673:	6	3	4	3	6	3	3	4
1681:	5	3	6	8	9	8	8	6
1689:	1	3	7	6	6	6	3	3
1697:	5	5	3	2	2	5	2	2
1705:	3	1	1	4	4	4	4	4
1713:	6	4	3	2	4	4	3	2
1721:	3	2	2	2	1	5	6	7
1729:	15	57	38	10	6	4	4	4
1737:	5	5	4	5	2	2	6	1
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1753:	1	2	1	1	1	2	5	7
1761:	1	8	24	119	237	175	45	8
1769:	7	8	3	4	1	0	1	1
1777:	1	0	2	3	4	2	0	4
1785:	3	2	6	1	2	3	3	2
1793:	2	5	1	0	3	2	3	5
1801:	2	0	2	4	3	3	5	3
1809:	3	3	2	3	3	5	1	0
1817:	2	2	4	3	5	4	3	3
1825:	2	3	2	3	0	2	1	0
1833:	1	2	2	2	6	5	6	8
1841:	5	5	5	1	4	5	20	41
1849:	26	6	5	3	2	1	0	2
1857:	5	2	3	3	0	3	1	2
1865:	1	1	0	2	3	3	2	5

1873:	6	6	3	5	1	3	3	1
1881:	4	1	5	3	6	4	4	4
1889:	2	1	7	3	2	6	2	7
1897:	1	5	2	0	2	3	1	3
1905:	1	3	4	1	2	4	1	5
1913:	1	2	3	4	4	2	4	1
1921:	3	4	3	1	1	4	1	2
1929:	3	2	2	5	5	1	5	5
1937:	3	6	3	3	4	0	1	2
1945:	3	2	2	5	5	7	6	2
1953:	3	1	3	0	1	4	7	1
1961:	1	3	3	3	2	2	1	2
1969:	0	3	3	3	0	3	4	0
1977:	6	2	1	3	3	1	3	5
1985:	3	4	2	1	3	0	1	4
1993:	4	3	2	0	1	1	3	2
2001:	3	2	1	0	1	2	2	3
2009:	1	2	3	0	4	1	3	4
2017:	0	7	4	1	4	2	2	1
2025:	3	0	2	3	5	2	1	4
2033:	1	1	1	1	1	3	4	3
2041:	2	2	2	3	3	2	4	3
2049:	1	4	2	0	0	3	3	3
2057:	4	0	2	2	0	2	3	3
2065:	1	0	3	1	1	1	4	0
2073:	2	2	2	3	3	1	1	3
2081:	4	3	0	1	2	3	1	0
2089:	1	2	2	3	3	3	0	2
2097:	0	2	2	1	0	4	3	3
2105:	5	4	3	4	1	1	2	1
2113:	1	2	2	0	3	12	17	13
2121:	9	1	1	1	0	4	2	0
2129:	1	1	3	1	1	3	1	2
2137:	2	1	1	0	1	0	0	3
2145:	0	3	2	2	6	3	0	1
2153:	0	0	2	0	1	1	0	4
2161:	1	1	2	2	2	1	2	1
2169:	2	2	2	1	5	2	3	2
2177:	1	3	3	1	3	1	0	2
2185:	3	1	5	0	1	0	2	0
2193:	3	2	2	0	0	1	2	1
2201:	3	0	21	38	59	41	4	4
2209:	4	2	3	2	1	2	1	0
2217:	4	0	0	1	0	2	2	1
2225:	0	1	2	2	3	1	2	0
2233:	1	2	1	0	1	2	0	1
2241:	0	1	2	2	0	1	0	2
2249:	1	1	0	1	2	1	2	2
2257:	0	2	0	2	1	0	2	2
2265:	2	2	0	2	2	1	0	1
2273:	0	1	1	0	2	0	0	2
2281:	1	0	0	0	3	2	0	1
2289:	1	2	2	2	5	11	4	2
2297:	1	3	1	1	1	0	0	0
2305:	0	1	3	0	3	0	1	1
2313:	2	4	0	3	0	1	4	2
2321:	1	1	2	3	3	2	3	2
2329:	1	1	3	2	1	0	1	0
2337:	2	1	1	0	2	0	0	0
2345:	0	2	1	2	1	3	3	0

2353:	3	1	1	1	0	0	3	2
2361:	2	0	1	1	1	0	1	1
2369:	1	1	1	3	0	0	2	2
2377:	1	3	2	1	3	2	3	0
2385:	1	0	2	0	0	6	2	0
2393:	2	0	1	1	2	0	2	0
2401:	0	2	1	0	2	0	1	3
2409:	0	1	5	1	0	1	1	1
2417:	0	1	1	0	0	1	1	0
2425:	0	0	1	0	1	0	2	0
2433:	1	1	1	0	2	2	0	0
2441:	0	0	1	2	3	3	12	19
2449:	14	8	0	3	1	1	0	1
2457:	1	0	0	0	2	1	0	3
2465:	1	0	0	1	1	0	2	0
2473:	0	1	2	0	0	0	1	0
2481:	0	1	1	1	1	1	0	2
2489:	1	0	1	1	1	0	0	0
2497:	1	0	1	0	0	1	0	1
2505:	1	3	0	3	1	0	1	0
2513:	1	0	1	1	0	1	1	1
2521:	1	1	1	0	1	0	0	0
2529:	0	0	0	1	1	0	1	0
2537:	0	1	0	0	0	0	0	1
2545:	0	2	0	1	0	1	0	0
2553:	0	0	0	0	0	0	0	1
2561:	3	0	0	0	0	0	1	0
2569:	0	0	0	1	0	1	1	1
2577:	0	0	0	1	1	0	0	0
2585:	0	0	0	0	0	0	0	0
2593:	0	0	0	0	0	0	0	2
2601:	1	1	0	0	1	0	1	0
2609:	1	1	0	1	6	21	41	27
2617:	12	5	3	1	1	0	1	0
2625:	0	1	0	0	0	0	1	0
2633:	0	0	2	0	1	1	0	1
2641:	0	0	0	1	0	1	0	0
2649:	0	0	0	0	0	0	1	1
2657:	0	1	0	1	0	0	1	0
2665:	0	0	0	0	1	1	1	1
2673:	0	2	0	0	0	1	0	1
2681:	0	0	0	0	0	0	0	1
2689:	1	1	0	0	0	0	1	1
2697:	1	0	2	1	0	2	1	0
2705:	0	1	0	0	0	0	0	0
2713:	0	1	0	0	1	0	0	0
2721:	0	1	0	0	0	0	1	0
2729:	0	0	1	1	0	1	0	0
2737:	0	0	0	0	3	0	1	0
2745:	1	0	2	0	1	1	1	1
2753:	0	0	0	1	1	0	0	0
2761:	0	0	2	2	1	0	0	0
2769:	1	0	0	0	0	0	0	0
2777:	0	0	0	0	0	0	1	0
2785:	0	0	1	0	0	0	1	0
2793:	0	0	0	1	0	0	0	0
2801:	0	0	0	0	0	0	1	2
2809:	0	0	0	1	0	0	0	0
2817:	1	0	1	1	0	2	0	0
2825:	0	1	1	0	0	0	0	0

2833:	0	1	0	0	0	0	0	0
2841:	1	1	1	1	0	0	0	0
2849:	1	0	1	1	0	0	0	1
2857:	0	0	1	0	0	0	0	0
2865:	2	1	1	1	0	0	0	0
2873:	0	0	0	0	0	0	1	2
2881:	1	0	0	1	1	0	0	0
2889:	0	0	0	1	0	0	1	0
2897:	1	0	0	0	0	0	0	0
2905:	0	0	0	0	0	0	0	1
2913:	0	0	1	0	0	0	0	0
2921:	0	1	0	0	0	0	2	0
2929:	0	0	1	0	0	0	0	0
2937:	0	1	0	0	0	0	1	1
2945:	0	1	1	1	0	0	0	0
2953:	0	0	0	0	0	0	0	0
2961:	0	0	0	0	0	0	0	0
2969:	0	0	0	0	0	0	0	0
2977:	0	0	1	0	0	0	0	0
2985:	0	0	0	0	0	0	0	0
2993:	0	0	0	0	0	1	0	0
3001:	0	0	0	0	0	0	0	0
3009:	0	0	0	0	0	1	1	0
3017:	0	0	0	0	0	1	1	0
3025:	0	1	0	0	0	0	0	0
3033:	1	0	1	0	1	0	0	0
3041:	0	0	0	0	0	0	0	0
3049:	2	0	0	1	0	0	1	0
3057:	0	0	0	0	0	0	0	0
3065:	0	0	0	0	1	0	0	0
3073:	0	0	0	1	0	0	0	0
3081:	0	0	0	0	1	0	0	0
3089:	0	1	0	0	0	0	0	0
3097:	0	1	0	0	0	0	0	1
3105:	0	0	0	0	1	0	0	1
3113:	0	0	1	0	1	0	0	0
3121:	1	0	0	1	1	0	0	0
3129:	0	0	0	0	1	0	0	0
3137:	0	0	0	0	0	0	1	0
3145:	0	0	0	0	0	3	0	0
3153:	0	0	0	0	0	0	1	0
3161:	0	0	0	0	0	0	0	0
3169:	0	0	0	1	1	0	0	0
3177:	0	0	0	1	0	1	0	1
3185:	0	1	0	0	0	0	0	0
3193:	1	1	0	0	0	1	2	0
3201:	0	0	0	0	0	0	0	1
3209:	1	0	0	1	0	0	0	0
3217:	0	0	0	0	0	0	0	0
3225:	0	1	0	1	0	0	0	1
3233:	0	0	0	0	0	0	0	0
3241:	0	0	0	0	0	0	0	0
3249:	0	0	0	0	0	0	0	0
3257:	0	0	0	0	2	0	0	0
3265:	0	0	0	0	0	0	0	0
3273:	0	0	0	1	0	0	1	0
3281:	0	0	0	0	0	1	0	0
3289:	0	0	0	1	0	0	0	0
3297:	0	0	0	0	1	0	0	0
3305:	0	0	0	0	0	0	1	0

3313:	1	0	0	0	0	0	0	0
3321:	0	1	0	0	0	0	0	0
3329:	0	0	1	0	0	1	0	1
3337:	0	0	0	0	1	0	0	0
3345:	1	0	0	0	1	2	1	0
3353:	0	0	0	0	0	0	0	0
3361:	1	1	0	0	1	0	0	0
3369:	0	0	0	0	1	0	0	0
3377:	0	0	0	1	1	0	0	0
3385:	0	0	0	1	0	0	0	0
3393:	0	1	0	0	1	0	0	0
3401:	0	0	0	0	0	0	0	0
3409:	0	2	0	0	0	0	0	0
3417:	0	0	1	0	1	0	0	0
3425:	0	1	0	0	0	0	0	0
3433:	0	0	0	0	0	0	0	1
3441:	0	0	1	0	1	0	0	0
3449:	1	0	0	0	0	0	0	0
3457:	1	0	0	0	0	1	0	0
3465:	0	0	0	0	0	0	0	0
3473:	0	0	0	1	0	1	0	0
3481:	0	0	0	0	0	0	0	1
3489:	0	0	1	0	0	0	0	0
3497:	0	1	0	1	0	0	0	2
3505:	0	0	0	0	0	0	1	0
3513:	0	0	0	0	0	0	0	0
3521:	0	0	0	0	0	0	0	0
3529:	0	0	0	0	0	0	0	0
3537:	0	0	0	0	0	0	0	0
3545:	1	0	0	0	0	0	0	0
3553:	0	0	0	0	0	0	0	0
3561:	0	0	0	0	0	0	0	1
3569:	0	0	0	0	1	0	0	0
3577:	0	0	0	0	0	0	1	0
3585:	0	1	0	0	0	0	0	0
3593:	0	0	0	0	1	0	0	0
3601:	0	0	0	0	0	1	1	0
3609:	0	0	0	0	0	0	0	0
3617:	0	0	0	0	0	0	0	0
3625:	1	0	1	0	0	0	0	0
3633:	0	1	0	1	0	0	0	0
3641:	0	1	0	0	0	0	0	0
3649:	0	1	0	0	0	1	0	0
3657:	1	0	0	0	1	1	1	0
3665:	0	0	0	0	0	1	0	0
3673:	0	0	0	0	1	0	0	0
3681:	0	0	0	0	0	0	0	0
3689:	0	0	1	0	0	0	0	0
3697:	0	0	0	0	0	0	1	0
3705:	0	0	0	0	0	1	0	0
3713:	0	0	0	0	0	0	1	0
3721:	0	0	1	0	0	0	0	0
3729:	0	0	0	0	0	0	0	0
3737:	0	0	0	0	0	0	0	0
3745:	1	0	0	0	0	0	0	1
3753:	2	0	0	0	0	2	0	0
3761:	0	0	1	0	2	0	0	0
3769:	0	0	0	0	0	0	0	0
3777:	0	0	0	0	1	1	0	0
3785:	0	0	0	0	1	0	0	1

3793:	1	0	0	0	0	2	1	0
3801:	0	0	1	0	0	0	0	0
3809:	0	0	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0
3825:	0	0	0	0	0	1	0	0
3833:	0	0	0	0	0	0	0	0
3841:	0	0	0	0	1	0	0	0
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	0	0	0	0	0
3865:	0	0	0	0	0	0	0	0
3873:	1	0	0	0	1	0	0	0
3881:	0	0	1	0	0	0	0	0
3889:	0	0	0	0	0	0	3	0
3897:	0	0	0	0	0	0	1	0
3905:	0	0	0	0	1	0	0	0
3913:	1	1	0	0	0	0	0	0
3921:	0	0	0	0	0	0	0	0
3929:	0	1	0	1	0	0	1	0
3937:	0	0	0	1	0	0	0	0
3945:	0	0	0	0	0	0	0	0
3953:	0	0	0	0	1	0	0	0
3961:	0	0	0	0	0	0	0	2
3969:	2	0	0	1	0	0	0	0
3977:	0	0	0	0	0	0	0	1
3985:	0	0	0	0	0	0	0	0
3993:	0	0	0	0	0	0	0	0
4001:	0	0	0	0	0	0	0	0
4009:	0	0	0	0	1	0	0	0
4017:	0	0	0	0	0	0	1	0
4025:	0	1	0	0	0	0	0	1
4033:	0	0	0	0	0	0	0	0
4041:	0	0	0	0	0	0	1	0
4049:	0	0	0	0	0	0	0	1
4057:	0	0	0	0	0	0	0	0
4065:	0	0	1	0	0	0	0	0
4073:	0	1	0	0	0	1	0	0
4081:	0	0	0	0	0	0	0	0
4089:	0	0	0	0	1	0	0	0

JCD 2/22/12

VAX/VMS Peak Search Report Generated 22-FEB-2012 14:41:51.72

Configuration : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116314_GE3_GAS1102_176269.
Analyses by : PEAK V16.9 ENBACK V1.6 PEAKEFF V2.2
Client ID : JM-54-31-120128
Deposition Date :
Sample Date : 28-JAN-2012 00:00:00 Acquisition date : 22-FEB-2012 13:40:23
Sample ID : 1201163-14 Sample Quantity : 3.76810E+02 gram
Sample type : SOLID Sample Geometry : 0
Detector name : GE3 Detector Geometry: GAS-1102
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:01:15.18 2.0%
Start channel : 5 End channel : 4096
Sensitivity : 2.40000 Gaussian : 15.00000
Critical level : Yes

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	46.30*	3894	9612	1.19	46.59	44	6	8.6		PB-210
0	53.47	1289	8589	1.78	53.76	51	5	22.3		
0	63.13*	1194	14828	1.80	63.41	61	6	32.8		TH-234
0	67.62	642	13154	1.03	67.90	67	5	54.1		
0	76.46*	36475	28767	3.60	76.75	71	12	2.1		
0	87.88	7597	12126	1.86	88.17	86	6	5.1		NP-237
										SN-126
										CD-109
0	93.42*	1354	9752	2.46	93.70	92	6	24.0		
0	113.36	337	6541	2.99	113.65	112	5	72.9		
0	144.03	567	8540	2.09	144.32	142	6	52.1		CE-141
0	154.48	623	10185	1.92	154.77	152	7	54.3		
0	186.19*	7057	8489	1.90	186.48	183	7	4.9		RA-226
3	235.99	913	3194	1.44	236.28	233	14	18.6	2.89E+01	NB-95M
3	238.85*	486	3940	1.59	239.14	233	14	41.0		PB-212
3	242.04	9459	3833	1.51	242.33	233	14	2.8		RA-224
0	257.66	933	6014	3.65	257.95	254	9	30.7		
6	270.33	1606	4898	2.60	270.62	266	13	15.9	5.14E+00	
6	274.90	571	3046	1.82	275.19	266	13	30.8		
0	295.27*	19709	4923	1.83	295.56	292	8	1.9		PB-214
0	313.98	156	2721	2.70	314.27	312	6	107.3		
0	323.53	324	3247	1.38	323.83	321	7	59.3		RA-223
0	338.22*	133	2404	1.55	338.52	337	5	112.3		
2	351.98*	33839	1731	1.43	352.28	347	12	1.1	1.01E+01	PB-214
2	355.37	295	1992	1.76	355.67	347	12	86.6		
0	370.16	161	2101	1.87	370.46	368	6	90.9		
0	388.08	437	3488	3.34	388.38	384	9	49.7		
6	401.72	296	1566	1.42	402.03	397	12	39.3	2.22E+00	RN-219
6	405.55	176	1984	1.60	405.85	397	12	77.5		
0	427.38	216	3146	4.03	427.69	424	9	95.0		
0	455.52	159	1525	1.45	455.83	454	6	79.6		
0	462.04	112	1221	1.67	462.35	461	5	95.5		
0	480.56	164	1642	1.31	480.87	478	7	83.4		
0	487.67*	358	1939	2.03	487.98	484	9	45.7		LA-140
0	533.50	163	1288	1.34	533.81	531	7	74.9		
0	609.39*	23468	1784	1.79	609.70	605	10	1.5		BI-214

AG 2/23/12

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	665.49	576	1176	1.78	665.81	662	9	23.0		
0	703.45	108	1069	1.71	703.77	700	8	107.0		
0	719.77	169	957	2.39	720.09	717	8	65.3		
0	742.57	104	902	3.33	742.89	739	8	102.0		
0	768.50*	2101	1216	1.78	768.82	764	10	7.6		
0	786.15	566	1041	1.99	786.48	782	10	22.9		
0	806.06	551	972	2.00	806.39	802	9	22.1		
0	839.26	226	933	1.93	839.59	836	8	48.7		
0	911.03	105	803	1.76	911.36	909	7	91.4		
0	934.16	1136	1216	2.02	934.50	930	12	13.7		
0	1051.84	112	539	2.04	1052.18	1049	7	71.0		
0	1096.06	57	424	2.95	1096.40	1094	6	118.7		
0	1120.40	4775	929	2.00	1120.75	1115	12	3.9		BI-214
0	1133.09	87	526	2.43	1133.44	1130	7	90.1		
0	1155.45	520	718	2.06	1155.80	1151	10	21.2		
0	1182.13	82	425	1.84	1182.48	1180	7	85.8		
0	1208.18	140	567	1.67	1208.53	1205	9	63.6		
0	1238.26*	1688	759	2.14	1238.61	1233	12	8.2		
0	1254.24	179	484	5.54	1254.59	1250	9	46.8		
0	1281.44	412	717	2.16	1281.79	1276	12	27.9		
0	1303.62	71	419	1.63	1303.97	1300	8	102.0		
0	1377.71	1222	517	2.13	1378.07	1374	10	9.0		
0	1385.57	202	387	2.09	1385.94	1383	8	36.8		
3	1401.44	375	352	2.19	1401.81	1396	18	19.2	1.87E+00	
3	1408.00	686	334	2.32	1408.36	1396	18	11.7		
0	1461.15*	504	590	2.71	1461.51	1457	12	21.4		K-40
0	1509.25	490	590	2.34	1509.62	1504	10	20.6		
0	1538.06	59	433	1.52	1538.43	1536	7	119.9		
0	1543.72	116	275	1.57	1544.09	1542	6	49.5		
0	1583.24	184	317	2.17	1583.61	1580	8	36.6		
7	1595.02	75	165	2.47	1595.39	1593	11	55.9	2.84E+00	LA-140
7	1599.69	101	231	2.41	1600.07	1593	11	54.5		
0	1618.94	44	219	3.70	1619.31	1615	8	119.8		
0	1649.46	50	113	3.21	1649.83	1647	7	75.9		
0	1660.94	293	238	2.36	1661.31	1654	14	25.2		
0	1684.86	49	187	2.49	1685.24	1679	10	108.1		
0	1695.02	176	193	3.43	1695.40	1689	15	38.1		
4	1729.74	813	108	2.39	1730.12	1723	25	8.2	1.58E+00	
4	1741.64	41	125	3.32	1742.03	1723	25	115.3		
0	1764.63*	3625	168	2.24	1765.02	1758	14	3.7		BI-214
0	1800.74	26	69	1.97	1801.13	1798	8	119.1		
0	1837.74	85	121	2.32	1838.12	1835	10	52.8		
0	1847.46	491	126	2.43	1847.85	1844	10	12.4		
0	1889.49	29	95	3.78	1889.88	1888	7	117.9		
0	1896.16	36	100	3.03	1896.56	1894	8	101.8		
0	1936.34	44	160	2.96	1936.73	1931	12	117.4		
0	2018.33	26	70	5.25	2018.73	2014	9	125.1		
0	2118.79	269	36	2.74	2119.19	2115	12	15.1		
0	2204.33	997	37	2.89	2204.74	2199	14	6.9		BI-214
0	2267.22	22	21	3.27	2267.64	2263	11	92.2		
0	2293.56	53	11	1.42	2293.98	2289	9	35.9		

Sample ID : 1201163-14 Acquisition date : 22-FEB-2012 13:40:23

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	2392.64	6	2	2.81	2393.07	2391	5	128.1		
0	2399.58	5	0	2.98	2400.00	2397	6	89.4		
0	2448.16	302	0	2.80	2448.59	2445	12	11.5		
0	2614.79*	43	2	3.10	2615.23	2612	9	34.1		
0	2695.06	8	0	2.98	2695.50	2691	9	70.7		

Sample ID : 1201163-14 Acquisition date : 22-FEB-2012 13:40:23

Total number of lines in spectrum	90	
Number of unidentified lines	53	
Number of lines tentatively identified by NID	37	41.11%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.529E+01	2.529E+01	0.597E+01	23.63	
PB-210	22.26Y	1.00	7.678E+01	7.695E+01	0.945E+01	12.28	
PB-212	1.41E+10Y	1.00	1.233E+00	1.233E+00	0.642E+00	52.06	
BI-214	1602.00Y	1.00	1.356E+02	1.356E+02	0.076E+02	5.62	
PB-214	1602.00Y	1.00	1.388E+02	1.388E+02	0.324E+02	23.31	
RN-219	3.28E+04Y	1.00	7.824E+00	7.824E+00	3.196E+00	40.85	
RA-223	3.28E+04Y	1.00	1.196E+01	1.196E+01	0.835E+01	69.83	
RA-224	1.41E+10Y	1.00	2.728E+02	2.728E+02	0.902E+02	33.04	
RA-226	1602.00Y	1.00	2.067E+02	2.067E+02	3.795E+02	183.60	
TH-234	4.47E+09Y	1.00	2.346E+01	2.346E+01	0.793E+01	33.83	
			---------	---------			
	Total Activity :		9.004E+02	9.006E+02			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
NB-95M	3.61D	136.	4.093E+00	5.572E+02	2.010E+02	36.07	
LA-140	12.79D	4.00	5.668E-01	2.268E+00	0.967E+00	42.63	
			---------	---------			
	Total Activity :		4.660E+00	5.595E+02			

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CD-109	464.00D	1.04	1.495E+02	1.553E+02	0.210E+02	13.53	
SN-126	1.00E+05Y	1.00	1.502E+01	1.502E+01	0.182E+01	12.12	
CE-141	32.50D	1.73	9.881E-01	1.705E+00	0.976E+00	57.23	
NP-237	2.14E+06Y	1.00	4.407E+01	4.407E+01	0.529E+01	12.00	
			---------	---------			
	Total Activity :		2.096E+02	2.161E+02			

Grand Total Activity : 1.115E+03 1.676E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
K-40	1460.81	10.67*	3.724E-01	2.529E+01	2.529E+01	23.63	OK
Final Mean for 1 Valid Peaks = 2.529E+01+/- 5.974E+00 (23.63%)							
PB-210	46.50	4.25*	2.378E+00	7.678E+01	7.695E+01	12.28	OK
Final Mean for 1 Valid Peaks = 7.695E+01+/- 9.447E+00 (12.28%)							
PB-212	238.63	44.60*	1.761E+00	1.233E+00	1.233E+00	52.06	OK
	300.09	3.41	1.480E+00	----- Line	Not Found	-----	Absent
Final Mean for 1 Valid Peaks = 1.233E+00+/- 6.418E-01 (52.06%)							
BI-214	609.31	46.30*	7.958E-01	1.269E+02	1.269E+02	10.87	OK
	1120.29	15.10	4.615E-01	1.365E+02	1.365E+02	10.90	OK
	1764.49	15.80	3.245E-01	1.409E+02	1.409E+02	10.64	OK
	2204.22	4.98	2.817E-01	1.417E+02	1.417E+02	12.95	OK
Final Mean for 4 Valid Peaks = 1.356E+02+/- 7.627E+00 (5.62%)							
PB-214	295.21	19.19	1.499E+00	1.365E+02	1.365E+02	45.01	OK
	351.92	37.19*	1.298E+00	1.396E+02	1.397E+02	27.25	OK
Final Mean for 2 Valid Peaks = 1.388E+02+/- 3.235E+01 (23.31%)							
RN-219	401.80	6.50*	1.158E+00	7.824E+00	7.824E+00	40.85	OK
Final Mean for 1 Valid Peaks = 7.824E+00+/- 3.196E+00 (40.85%)							
RA-223	323.87	3.88*	1.391E+00	1.196E+01	1.196E+01	69.83	OK
Final Mean for 1 Valid Peaks = 1.196E+01+/- 8.350E+00 (69.83%)							
RA-224	240.98	3.95*	1.749E+00	2.728E+02	2.728E+02	33.04	OK
Final Mean for 1 Valid Peaks = 2.728E+02+/- 9.015E+01 (33.04%)							
RA-226	186.21	3.28*	2.074E+00	2.067E+02	2.067E+02	183.60	OK
Final Mean for 1 Valid Peaks = 2.067E+02+/- 3.795E+02 (183.60%)							
TH-234	63.29	3.80*	2.668E+00	2.346E+01	2.346E+01	33.83	OK
Final Mean for 1 Valid Peaks = 2.346E+01+/- 7.934E+00 (33.83%)							

Nuclide Type: ACTIVATION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
NB-95M	235.69	25.00*	1.777E+00	4.093E+00	5.572E+02	36.07	OK

Final Mean for 1 Valid Peaks = 5.572E+02+/- 2.010E+02 (36.07%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
LA-140	328.77	20.50	1.374E+00	-----	Line Not Found	-----	Absent
	487.03	45.50	9.761E-01	1.605E+00	6.423E+00	47.15	OK
	815.85	23.50	6.097E-01	-----	Line Not Found	-----	Absent
	1596.49	95.49*	3.485E-01	4.489E-01	1.797E+00	56.80	OK

Final Mean for 2 Valid Peaks = 2.268E+00+/- 9.670E-01 (42.63%)

Nuclide Type: FISSION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
CD-109	88.03	3.72*	2.722E+00	1.495E+02	1.553E+02	13.53	OK

Final Mean for 1 Valid Peaks = 1.553E+02+/- 2.101E+01 (13.53%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
SN-126	87.57	37.00*	2.723E+00	1.502E+01	1.502E+01	12.12	OK

Final Mean for 1 Valid Peaks = 1.502E+01+/- 1.820E+00 (12.12%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
CE-141	145.44	48.40*	2.364E+00	9.881E-01	1.705E+00	57.23	OK

Final Mean for 1 Valid Peaks = 1.705E+00+/- 9.759E-01 (57.23%)

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
NP-237	86.50	12.60*	2.726E+00	4.407E+01	4.407E+01	12.00	OK

Final Mean for 1 Valid Peaks = 4.407E+01+/- 5.289E+00 (12.00%)

Flag: "*" = Keyline

---- Identified Nuclides ----

Nuclide	Activity (pCi/gram)	Act error	MDA (pCi/gram)	MDA error	Act/MDA
K-40	2.529E+01	5.974E+00	4.336E+00	4.017E-01	5.832
NB-95M	5.572E+02	2.010E+02	1.649E+02	5.057E+01	3.380
CD-109	1.553E+02	2.101E+01	9.658E+00	1.145E+00	16.081
SN-126	1.502E+01	1.820E+00	9.339E-01	9.543E-02	16.086
LA-140	2.268E+00	9.670E-01	1.849E+00	1.693E-01	1.227
CE-141	1.705E+00	9.759E-01	1.084E+00	2.522E-01	1.574
PB-210	7.695E+01	9.447E+00	6.879E+00	5.385E-01	11.187
PB-212	1.233E+00	6.418E-01	6.855E-01	2.179E-01	1.798
BI-214	1.356E+02	7.627E+00	7.468E-01	7.464E-02	181.574
PB-214	1.388E+02	3.235E+01	8.698E-01	2.343E-01	159.542
RN-219	7.824E+00	3.196E+00	5.348E+00	5.620E-01	1.463
RA-223	1.196E+01	8.350E+00	7.864E+00	2.877E+00	1.521
RA-224	2.728E+02	9.015E+01	7.801E+00	2.549E+00	34.970
RA-226	2.067E+02	3.795E+02	9.810E+00	1.800E+01	21.068
TH-234	2.346E+01	7.934E+00	8.472E+00	6.302E-01	2.769
NP-237	4.407E+01	5.289E+00	2.774E+00	2.797E-01	15.885

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
BE-7	-1.693E+00		3.083E+00	4.403E+00	4.712E-01	-0.385
NA-22	4.156E-02		3.062E-01	4.613E-01	4.040E-02	0.090
AL-26	5.087E-02		1.909E-01	2.940E-01	2.687E-02	0.173
TI-44	5.017E-01	+	2.752E-01	3.690E-01	2.916E-02	1.359
SC-46	3.133E-01		3.238E-01	5.609E-01	6.480E-02	0.559
V-48	-4.943E-01		7.652E-01	1.271E+00	1.395E-01	-0.389
CR-51	4.245E-01		4.487E+00	5.847E+00	2.214E+00	0.073
MN-54	2.131E-01		2.779E-01	4.364E-01	4.829E-02	0.488
CO-56	-3.901E-02		3.314E-01	5.064E-01	5.659E-02	-0.077
CO-57	9.639E-02		2.002E-01	3.346E-01	3.325E-02	0.288
CO-58	-4.152E-03		3.332E-01	5.125E-01	5.564E-02	-0.008
FE-59	-1.037E+00		7.925E-01	1.117E+00	1.150E-01	-0.929
CO-60	1.202E-01		2.763E-01	4.509E-01	3.871E-02	0.267
ZN-65	6.966E-01		6.862E-01	1.068E+00	1.010E-01	0.652
GA-67	6.438E+02	+	2.272E+03	1.985E+02	6.988E+02	3.244
SE-75	-3.020E-01		4.686E-01	5.829E-01	2.465E-01	-0.518
RB-82	-4.075E+00		4.805E+00	5.598E+00	5.885E-01	-0.728
RB-83	-3.751E-01		4.989E-01	8.515E-01	1.432E-01	-0.441
KR-85	-2.594E+01		4.553E+01	7.852E+01	8.355E+00	-0.330
SR-85	-1.484E-01		2.605E-01	4.492E-01	4.780E-02	-0.330
Y-88	5.147E-01		2.623E-01	4.493E-01	4.098E-02	1.145
NB-93M	5.338E+00		5.657E+00	9.605E+00	2.573E+00	0.556
NB-94	-6.725E-02		2.448E-01	4.147E-01	4.724E-02	-0.162
NB-95	5.952E+00		8.490E-01	1.024E+00	1.066E-01	5.812
ZR-95	-8.335E-02		5.073E-01	8.693E-01	9.613E-02	-0.096
RU-103	-3.515E-02		3.439E-01	5.426E-01	8.412E-02	-0.065
RU-106	-2.086E-01		1.895E+00	3.286E+00	4.662E-01	-0.063

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
AG-108M	1.140E-01		2.618E-01	4.111E-01	4.103E-02	0.277
AG-110M	1.047E-01		2.422E-01	3.830E-01	3.598E-02	0.273
SN-113	1.528E-01		4.210E-01	6.223E-01	6.642E-02	0.245
TE123M	2.985E-01		2.786E-01	4.285E-01	3.868E-02	0.697
SB-124	-1.793E-01		3.117E-01	4.787E-01	4.818E-02	-0.375
I-125	-3.065E+00		3.662E+00	6.227E+00	5.882E-01	-0.492
SB-125	1.361E+00	+	1.302E+00	1.285E+00	1.382E-01	1.060
SB-126	3.823E+00	+	2.529E+00	3.086E+00	3.072E-01	1.239
SB-127	-1.410E+00		5.670E+01	9.797E+01	9.393E+00	-0.014
I-129	-4.129E-01		3.583E-01	6.044E-01	6.765E-02	-0.683
I-131	-1.751E+00		2.358E+00	3.368E+00	7.440E-01	-0.520
TE-132	2.389E+01		5.417E+01	8.146E+01	2.273E+01	0.293
BA-133	7.662E-01	+	6.964E-01	5.860E-01	1.599E-01	1.307
CS-134	7.121E-02		2.449E-01	3.855E-01	3.879E-02	0.185
CS-135	6.748E+00		3.220E+00	2.161E+00	9.468E-01	3.123
CS-136	-1.103E-01		1.340E+00	2.025E+00	2.130E-01	-0.054
CS-137	-1.222E-02		2.574E-01	4.007E-01	3.747E-02	-0.030
LA-138	1.810E-01		4.319E-01	7.301E-01	6.570E-02	0.248
CE-139	-3.923E-02		2.607E-01	4.291E-01	3.791E-02	-0.091
BA-140	-1.422E+00		3.384E+00	5.213E+00	1.757E+00	-0.273
CE-144	4.873E-01		1.655E+00	2.756E+00	2.663E-01	0.177
PM-144	-6.851E-03		2.362E-01	3.669E-01	3.563E-02	-0.019
PM-145	-6.838E-01		9.209E-01	1.373E+00	8.949E-01	-0.498
PM-146	5.696E-01		5.797E-01	8.616E-01	9.208E-02	0.661
ND-147	4.517E+00		7.936E+00	1.266E+01	1.339E+00	0.357
EU-152	2.395E+01	+	3.990E+00	5.167E+00	5.777E-01	4.636
GD-153	-1.041E+00		7.289E-01	1.190E+00	1.197E-01	-0.875
EU-154	1.192E-01		8.507E-01	1.282E+00	1.123E-01	0.093
EU-155	1.815E+01	+	2.178E+00	1.306E+00	1.316E-01	13.897
EU-156	-1.124E+00		7.959E+00	1.218E+01	2.895E+00	-0.092
HO-166M	-1.138E-02		5.390E-01	6.660E-01	6.569E-02	-0.017
HF-172	-5.251E-01		1.480E+00	2.453E+00	2.414E-01	-0.214
LU-172	3.665E+00		6.641E+00	1.024E+01	9.983E-01	0.358
LU-173	6.668E+00		3.207E+00	1.761E+00	8.015E-01	3.787
HF-175	1.491E-01		3.906E-01	5.074E-01	1.524E-01	0.294
LU-176	3.480E-02		2.022E-01	3.260E-01	1.359E-01	0.107
TA-182	6.903E+01	+	7.519E+00	4.876E+00	4.567E-01	14.158
IR-192	4.612E-01		5.850E-01	8.675E-01	9.282E-02	0.532
HG-203	-2.557E-01		4.192E-01	5.902E-01	2.876E-01	-0.433
BI-207	-1.061E-01		2.027E-01	3.484E-01	3.606E-02	-0.305
TL-208	5.919E-01		7.090E-01	1.246E+00	1.276E-01	0.475
BI-210M	6.937E-03		5.175E-01	6.803E-01	2.799E-01	0.010
PB-211	1.048E+01	+	8.209E+00	1.280E+01	1.347E+00	0.819
BI-212	-4.008E-01		1.952E+00	3.006E+00	3.013E-01	-0.133
RA-225	1.249E+00		1.945E+00	3.124E+00	2.686E-01	0.400
TH-227	8.907E+00	+	3.221E+00	3.014E+00	9.279E-01	2.955
AC-228	1.372E+00	+	1.265E+00	1.716E+00	1.981E-01	0.800
TH-230	1.280E+02	+	7.018E+01	9.400E+01	7.407E+00	1.361

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
PA-231	-1.014E+01		1.036E+01	1.369E+01	5.860E+00	-0.741
TH-231	2.150E+00		1.660E+00	2.858E+00	3.817E-01	0.752
PA-233	3.869E-01		1.037E+00	1.530E+00	6.919E-01	0.253
PA-234	-4.836E-02		8.175E-01	1.358E+00	1.320E-01	-0.036
PA-234M	3.593E+01		2.928E+01	5.078E+01	5.490E+00	0.708
U-235	4.531E+00	+	2.504E+00	2.969E+00	5.319E-01	1.526
AM-241	2.796E+00		5.833E-01	8.880E-01	6.288E-02	3.149
AM-243	1.689E+01		1.667E+00	8.313E-01	7.186E-02	20.321
CM-243	-4.777E-01		1.533E+00	2.249E+00	1.079E+00	-0.212

Summary of Nuclide Activity
Sample ID : 1201163-14 Acquisition date : 22-FEB-2012 13:40:23

Total number of lines in spectrum	90	
Number of unidentified lines	53	
Number of lines tentatively identified by NID	37	41.11%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.529E+01	2.529E+01	0.597E+01	23.63	
PB-210	22.26Y	1.00	7.678E+01	7.695E+01	0.945E+01	12.28	
PB-212	1.41E+10Y	1.00	1.233E+00	1.233E+00	0.642E+00	52.06	
BI-214	1602.00Y	1.00	1.356E+02	1.356E+02	0.076E+02	5.62	
PB-214	1602.00Y	1.00	1.388E+02	1.388E+02	0.324E+02	23.31	
RN-219	3.28E+04Y	1.00	7.824E+00	7.824E+00	3.196E+00	40.85	
RA-223	3.28E+04Y	1.00	1.196E+01	1.196E+01	0.835E+01	69.83	
RA-224	1.41E+10Y	1.00	2.728E+02	2.728E+02	0.902E+02	33.04	
RA-226	1602.00Y	1.00	2.067E+02	2.067E+02	3.795E+02	183.60	
TH-234	4.47E+09Y	1.00	2.346E+01	2.346E+01	0.793E+01	33.83	
			---------	---------			
	Total Activity :		9.004E+02	9.006E+02			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
NB-95M	3.61D	136.	4.093E+00	5.572E+02	2.010E+02	36.07	
LA-140	12.79D	4.00	5.668E-01	2.268E+00	0.967E+00	42.63	
			---------	---------			
	Total Activity :		4.660E+00	5.595E+02			

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CD-109	464.00D	1.04	1.495E+02	1.553E+02	0.210E+02	13.53	
SN-126	1.00E+05Y	1.00	1.502E+01	1.502E+01	0.182E+01	12.12	
CE-141	32.50D	1.73	9.881E-01	1.705E+00	0.976E+00	57.23	
NP-237	2.14E+06Y	1.00	4.407E+01	4.407E+01	0.529E+01	12.00	
			---------	---------			
	Total Activity :		2.096E+02	2.161E+02			

Grand Total Activity : 1.115E+03 1.676E+03

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

```
Spectrum     : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116314_GE3_GAS1102_176269.CNF;1
Title        :
Sample Title: JM-54-31-120128
Start Time: 22-FEB-2012 13:40  Sample Time: 28-JAN-2012 00:00  Energy Offset: -2.78447E-01
Real Time : 0 01:01:15.18      Sample ID  : 1201163-14         Energy Slope : 9.99940E-01
Live Time : 0 01:00:00.00      Sample Type: SOLID              Energy Quad  : 0.00000E+00
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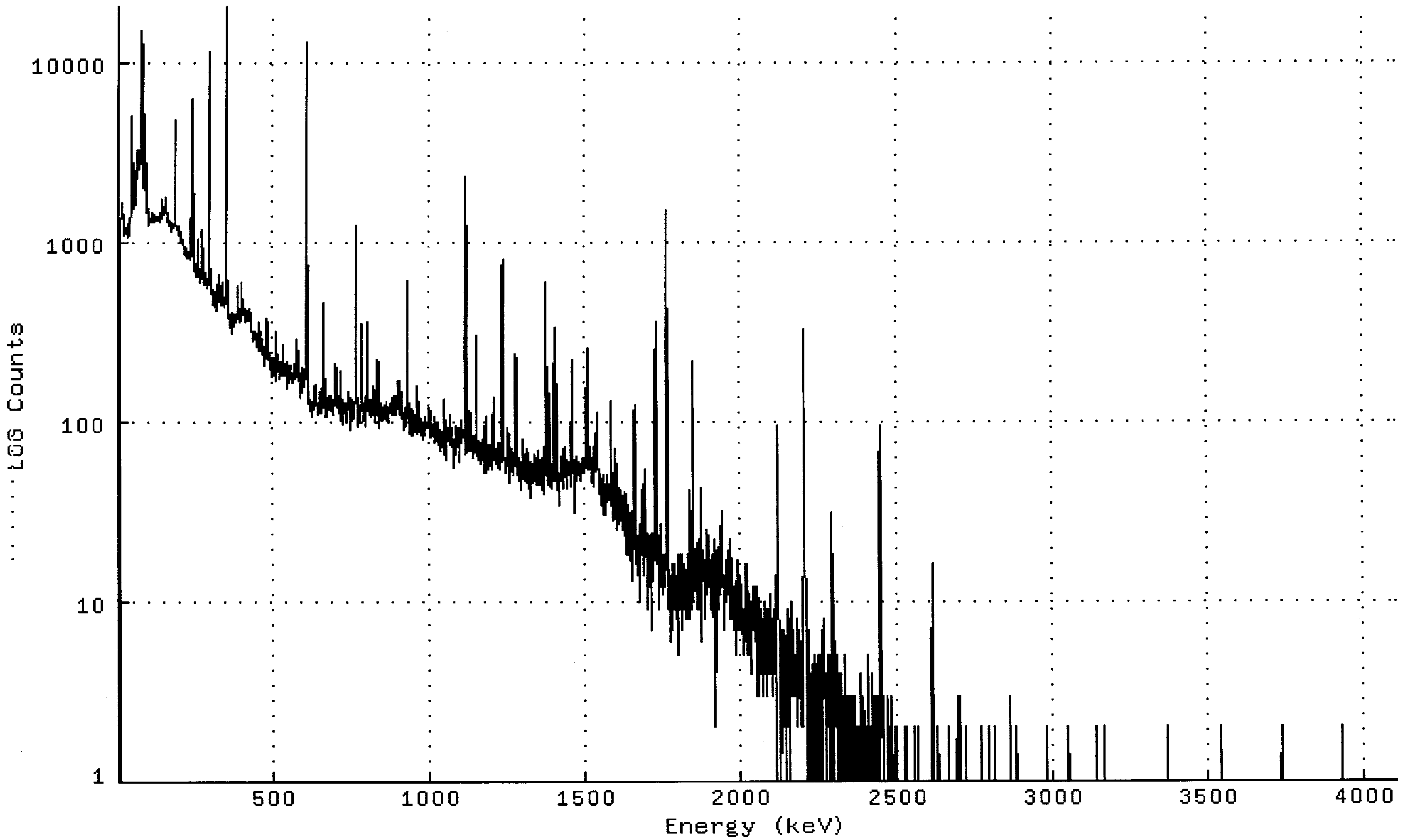

0309

Channel Contents for DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116314_GE3_GAS1102_1762

Channel

1:	0	0	0	0	0	0	0	0
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17:	1318	1231	1211	1110	1090	1073	1141	1103
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3065:	0	0	0	0	0	1	1	1
3073:	0	0	0	1	0	0	0	0
3081:	0	1	0	0	0	0	0	0
3089:	0	0	0	0	0	0	0	0
3097:	0	0	0	0	0	0	0	1
3105:	0	0	0	0	0	0	0	0
3113:	0	0	0	0	1	0	0	0
3121:	1	0	0	1	0	0	0	1
3129:	0	0	0	1	0	0	0	0
3137:	0	2	0	0	0	0	1	0
3145:	0	0	1	0	1	0	0	0
3153:	0	0	0	1	0	0	0	0
3161:	2	0	0	0	0	0	0	0
3169:	0	0	0	0	0	0	0	0
3177:	0	0	1	0	0	0	0	1
3185:	0	0	1	0	0	0	0	0
3193:	0	0	0	0	0	1	0	0
3201:	0	0	1	0	0	0	0	0
3209:	0	0	0	0	0	0	0	0
3217:	0	1	0	0	0	0	0	0
3225:	0	0	0	0	0	0	0	0
3233:	0	1	0	0	0	0	0	0
3241:	0	0	0	0	0	0	0	1
3249:	0	1	1	0	0	0	0	0
3257:	0	0	0	1	0	0	0	0
3265:	0	1	0	0	0	0	0	0
3273:	0	1	1	0	0	0	0	0
3281:	1	0	0	0	0	0	0	0
3289:	0	0	0	0	0	0	0	0
3297:	0	0	0	0	0	0	0	0
3305:	0	1	0	0	0	0	1	1

3313:	1	0	0	0	1	0	0	0
3321:	0	0	0	0	1	0	0	0
3329:	0	0	0	0	0	0	0	0
3337:	0	0	0	0	0	0	0	0
3345:	0	0	1	0	0	1	0	0
3353:	0	0	0	0	0	0	1	0
3361:	0	0	0	0	0	0	2	0
3369:	0	0	0	0	0	0	0	0
3377:	1	0	0	0	0	0	0	0
3385:	0	1	0	0	0	0	0	0
3393:	0	0	0	0	0	0	0	0
3401:	0	0	0	0	0	0	1	0
3409:	0	0	0	0	0	0	0	0
3417:	0	0	0	0	0	0	0	0
3425:	0	0	0	0	0	0	0	0
3433:	0	0	0	0	0	0	0	0
3441:	0	0	0	0	0	0	0	0
3449:	0	0	1	0	0	1	0	0
3457:	0	0	0	0	0	0	0	0
3465:	0	0	0	0	0	1	0	0
3473:	0	0	0	0	0	0	0	0
3481:	0	0	0	0	0	0	1	1
3489:	0	0	0	1	0	0	0	0
3497:	0	0	0	0	0	0	0	0
3505:	0	0	0	0	0	0	0	0
3513:	0	0	0	0	0	0	0	0
3521:	0	0	0	0	1	0	0	0
3529:	0	0	0	0	0	0	0	2
3537:	0	0	0	1	0	0	0	0
3545:	0	0	0	0	0	0	0	0
3553:	0	0	0	0	0	1	1	0
3561:	0	0	0	0	0	0	0	0
3569:	0	0	0	0	0	0	0	0
3577:	0	1	0	0	0	0	0	0
3585:	0	0	0	0	0	0	0	1
3593:	0	0	0	0	0	1	0	0
3601:	0	0	0	0	0	0	0	0
3609:	0	0	0	0	1	1	1	0
3617:	0	0	0	0	0	0	0	0
3625:	0	1	0	1	0	0	0	0
3633:	0	0	0	0	0	0	0	0
3641:	1	0	0	1	0	0	0	0
3649:	0	0	1	0	0	0	1	0
3657:	1	0	0	0	0	0	0	0
3665:	0	0	0	1	0	0	0	0
3673:	0	0	0	0	0	1	0	0
3681:	0	0	0	0	0	0	0	0
3689:	0	0	0	1	1	0	1	0
3697:	0	0	0	1	0	0	0	0
3705:	0	1	0	0	0	1	1	0
3713:	0	0	0	0	0	0	0	0
3721:	0	0	0	0	0	0	0	0
3729:	0	0	2	0	0	0	0	0
3737:	0	0	0	0	1	0	0	0
3745:	0	0	0	0	0	0	0	1
3753:	0	0	1	0	0	0	0	1
3761:	0	0	0	0	0	0	1	0
3769:	0	0	0	1	0	0	0	0
3777:	0	0	0	0	0	0	1	0
3785:	0	0	0	0	0	0	0	0

3793:	0	0	0	0	0	0	0	0
3801:	0	0	0	0	0	0	0	0
3809:	0	0	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0
3825:	1	0	0	0	0	0	0	0
3833:	0	0	0	0	0	1	0	0
3841:	0	0	0	0	0	0	0	0
3849:	0	0	0	0	0	0	0	0
3857:	0	0	0	0	0	0	0	1
3865:	0	0	0	0	0	0	0	0
3873:	0	0	0	0	0	0	0	0
3881:	0	0	0	0	0	1	1	0
3889:	0	0	0	0	0	0	0	0
3897:	0	0	0	0	0	0	0	1
3905:	0	0	0	0	0	0	0	0
3913:	0	0	0	0	0	0	0	0
3921:	0	0	0	1	0	2	0	0
3929:	0	0	0	0	0	0	0	0
3937:	0	0	0	0	0	0	0	1
3945:	0	0	0	0	0	0	0	0
3953:	0	0	0	0	0	0	0	0
3961:	0	0	0	0	0	1	0	0
3969:	0	0	0	0	0	1	0	0
3977:	0	0	0	0	0	0	0	0
3985:	1	0	1	0	0	0	0	0
3993:	0	0	0	1	0	0	0	0
4001:	0	0	0	0	0	0	0	0
4009:	0	0	0	0	0	0	0	0
4017:	0	1	0	0	0	0	0	0
4025:	0	0	0	0	0	0	0	0
4033:	0	1	0	0	0	0	0	0
4041:	1	0	1	0	0	0	0	0
4049:	0	0	0	0	0	1	0	0
4057:	0	0	0	0	0	0	0	0
4065:	0	0	0	0	1	1	0	0
4073:	0	0	0	0	1	0	0	0
4081:	0	0	0	0	0	0	1	0
4089:	1	0	0	1	0	0	0	1

ICB 2/22/12

Sample ID : 1201163-15 Acquisition date : 22-FEB-2012 14:13:52

VAX/VMS Peak Search Report Generated 22-FEB-2012 15:14:08.77

Configuration : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116315_GE2_GAS1102_176271.
Analyses by : PEAK V16.9 ENBACK V1.6 PEAKEFF V2.2
Client ID : JMBJGD-NW-31-120128
Deposition Date :
Sample Date : 28-JAN-2012 00:00:00 Acquisition date : 22-FEB-2012 14:13:52
Sample ID : 1201163-15 Sample Quantity : 3.45250E+02 gram
Sample type : SOLID Sample Geometry : 0
Detector name : GE2 Detector Geometry: GAS-1102
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:01.21 0.0%
Start channel : 5 End channel : 4096
Sensitivity : 2.40000 Gaussian : 15.00000
Critical level : Yes

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw %Err	Fit	Nuclides
0	46.39*	87	630	1.81	46.34	43	8104.2		PB-210
0	61.79	268	1076	6.87	61.75	56	11 48.9		TH-234
0	76.17*	1222	1042	3.19	76.13	71	10 11.5		AM-243
5	84.25	80	498	1.68	84.21	82	20 83.6	3.47E+00	
5	87.42	277	471	1.77	87.38	82	20 26.2		NP-237 SN-126 CD-109
5	90.02	126	358	1.46	89.99	82	20 48.6		
5	92.95*	246	582	2.18	92.91	82	20 37.8		GA-67
0	153.96	55	352	2.02	153.95	152	6111.7		
0	185.84*	165	426	1.24	185.84	183	7 46.1		RA-226
0	208.54*	121	414	1.41	208.55	204	9 64.0		GA-67
1	235.98	42	164	1.54	236.00	234	14125.0	1.45E+02	NB-95M
1	241.98*	219	145	1.55	242.00	234	14 23.6		RA-224
1	244.97	34	142	1.71	245.00	234	14137.9		
0	270.28	90	256	1.49	270.31	266	8 65.1		
0	276.36	60	211	4.64	276.39	274	7 85.3		
5	288.93	43	141	2.57	288.97	286	20 90.3	1.78E+00	
5	295.17*	433	116	1.72	295.21	286	20 12.2		PB-214
5	300.41	75	185	2.59	300.46	286	20 68.4		GA-67
0	328.56	66	160	1.42	328.62	325	7 67.7		
0	337.98*	109	221	1.62	338.04	335	8 51.9		AC-228
1	348.10	28	66	1.82	348.17	346	11 78.8	2.27E+00	
1	351.77*	667	102	1.52	351.83	346	11 9.2		PB-214
0	463.05	45	128	1.84	463.16	459	8 92.7		
0	486.34	61	110	5.04	486.45	482	9 67.2		
0	510.66*	63	147	2.36	510.78	506	10 83.3		
0	582.94	240	60	1.85	583.09	579	8 17.1		
0	609.05*	519	94	1.63	609.21	605	9 11.2		BI-214
0	661.64*	174	109	2.06	661.82	657	11 28.1		CS-137
0	769.23*	59	97	2.28	769.45	764	11 71.6		
0	800.94	79	108	13.56	801.17	791	18 66.4		
0	859.12	46	55	2.18	859.37	854	10 67.1		
0	910.85*	150	53	1.62	911.13	907	9 24.6		AC-228
0	934.71	28	44	4.48	934.99	930	10 93.9		
6	963.95	21	53	2.15	964.25	961	12109.7	5.45E+00	

AG 2/23/12

Sample ID : 1201163-15 Acquisition date : 22-FEB-2012 14:13:52

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
6	968.51*	71	51	2.43	968.81	961	12	44.9		AC-228
0	1120.00*	115	40	1.81	1120.35	1116	9	27.7		BI-214
0	1132.06	24	32	3.28	1132.42	1129	8	91.3		
0	1144.56	39	72	7.69	1144.92	1137	15	98.7		
1	1220.39	15	31	2.41	1220.78	1213	17	138.4	2.49E+00	
1	1224.61	28	33	2.19	1225.00	1213	17	74.0		
0	1237.03	56	60	2.66	1237.43	1231	10	58.2		
0	1376.33	40	27	3.63	1376.78	1371	12	60.9		
3	1400.97	17	7	3.03	1401.43	1397	16	74.7	1.58E+00	
3	1407.41	32	3	3.03	1407.87	1397	16	47.1		
0	1416.37	12	6	1.94	1416.83	1414	6	86.6		
3	1456.52	14	0	2.30	1457.00	1456	12	49.6	3.05E+00	
3	1460.24*	623	6	2.16	1460.72	1456	12	8.4		K-40
0	1629.00	12	4	2.32	1629.54	1626	8	81.6		
0	1643.05	10	0	2.58	1643.60	1640	7	63.2		
0	1680.66*	5	2	1.37	1681.22	1679	5	132.8		
0	1685.44	9	0	2.87	1686.00	1684	5	66.7		
0	1701.86	7	0	2.74	1702.43	1699	7	75.6		
0	1744.08	9	0	2.98	1744.67	1742	7	66.7		
0	1763.54*	76	6	3.29	1764.13	1759	11	26.8		BI-214
4	1786.68	6	3	3.57	1787.28	1786	8	77.9	2.37E+00	
4	1790.26	10	3	3.04	1790.87	1786	8	86.2		
0	1813.44	6	2	2.94	1814.05	1811	6	99.5		
0	1846.35	18	12	1.47	1846.98	1842	10	88.3		
0	1888.94	9	2	3.95	1889.58	1886	7	81.3		
0	2181.19	8	1	1.57	2181.94	2179	7	90.6		
0	2202.37	23	7	2.85	2203.13	2199	12	61.3		
0	2259.52	10	0	2.96	2260.30	2256	8	63.2		
0	2269.02	14	2	5.34	2269.81	2265	10	68.5		
0	2277.34	6	3	1.53	2278.13	2274	6	122.5		
0	2403.38	6	1	2.48	2404.22	2401	6	107.8		
0	2438.98	9	1	2.72	2439.83	2437	7	83.1		
0	2446.36	8	2	1.27	2447.21	2444	8	99.1		
0	2613.11*	95	3	2.60	2614.03	2609	12	22.9		

Sample ID : 1201163-15 Acquisition date : 22-FEB-2012 14:13:52

Total number of lines in spectrum	68	
Number of unidentified lines	32	
Number of lines tentatively identified by NID	36	52.94%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.773E+01	2.773E+01	0.383E+01	13.82	
PB-210	22.26Y	1.00	2.027E+00	2.032E+00	2.125E+00	104.56	
BI-214	1602.00Y	1.00	2.737E+00	2.737E+00	0.331E+00	12.09	
PB-214	1602.00Y	1.00	2.932E+00	2.932E+00	0.295E+00	10.05	
RA-224	1.41E+10Y	1.00	6.691E+00	6.691E+00	1.695E+00	25.33	
RA-226	1602.00Y	1.00	5.221E+00	5.222E+00	9.862E+00	188.87	
AC-228	1.41E+10Y	1.00	1.668E+00	1.668E+00	0.353E+00	21.15	
TH-234	4.47E+09Y	1.00	6.092E+00	6.092E+00	3.033E+00	49.79	
			---------	---------			
	Total Activity :		5.510E+01	5.510E+01			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
GA-67	3.26D	231.	6.389E-01	1.479E+02	3.549E+02	240.00	
NB-95M	3.61D	137.	2.017E-01	2.758E+01	3.459E+01	125.38	
AM-243	7380.00Y	1.00	1.549E+00	1.549E+00	0.254E+00	16.40	
			---------	---------			
	Total Activity :		2.390E+00	1.770E+02			

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CD-109	464.00D	1.04	6.190E+00	6.431E+00	1.972E+00	30.66	
SN-126	1.00E+05Y	1.00	6.223E-01	6.223E-01	1.869E-01	30.03	
CS-137	30.17Y	1.00	5.345E-01	5.354E-01	1.587E-01	29.63	
NP-237	2.14E+06Y	1.00	1.827E+00	1.827E+00	0.546E+00	29.90	
			---------	---------			
	Total Activity :		9.174E+00	9.416E+00			

Grand Total Activity : 6.666E+01 2.415E+02

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
K-40	1460.81	10.67*	4.582E-01	2.773E+01	2.773E+01	13.82	OK
	Final Mean for 1 Valid Peaks = 2.773E+01+/- 3.833E+00 (13.82%)						
PB-210	46.50	4.25*	2.204E+00	2.027E+00	2.032E+00	104.56	OK
	Final Mean for 1 Valid Peaks = 2.032E+00+/- 2.125E+00 (104.56%)						
BI-214	609.31	46.30*	8.915E-01	2.736E+00	2.736E+00	14.93	OK
	1120.29	15.10	5.508E-01	3.000E+00	3.000E+00	29.46	OK
	1764.49	15.80	4.084E-01	2.561E+00	2.561E+00	28.66	OK
	2204.22	4.98	3.644E-01	----- Line	Not Found	-----	Absent
	Final Mean for 3 Valid Peaks = 2.737E+00+/- 3.309E-01 (12.09%)						
PB-214	295.21	19.19	1.574E+00	3.116E+00	3.116E+00	15.30	OK
	351.92	37.19*	1.383E+00	2.819E+00	2.819E+00	13.29	OK
	Final Mean for 2 Valid Peaks = 2.932E+00+/- 2.946E-01 (10.05%)						
RA-224	240.98	3.95*	1.806E+00	6.691E+00	6.691E+00	25.33	OK
	Final Mean for 1 Valid Peaks = 6.691E+00+/- 1.695E+00 (25.33%)						
RA-226	186.21	3.28*	2.099E+00	5.221E+00	5.222E+00	188.87	OK
	Final Mean for 1 Valid Peaks = 5.222E+00+/- 9.862E+00 (188.87%)						
AC-228	338.32	11.40	1.425E+00	1.456E+00	1.456E+00	52.80	OK
	911.07	27.70*	6.445E-01	1.828E+00	1.828E+00	26.47	OK
	969.11	16.60	6.144E-01	1.513E+00	1.513E+00	45.94	OK
	Final Mean for 3 Valid Peaks = 1.668E+00+/- 3.528E-01 (21.15%)						
TH-234	63.29	3.80*	2.516E+00	6.092E+00	6.092E+00	49.79	OK
	Final Mean for 1 Valid Peaks = 6.092E+00+/- 3.033E+00 (49.79%)						

Nuclide Type: ACTIVATION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
GA-67	93.31	35.70*	2.610E+00	5.739E-01	1.328E+02	354.50	OK
	208.95	2.24	1.970E+00	5.960E+00	1.379E+03	340.11	OK
	300.22	16.00	1.555E+00	6.543E-01	1.514E+02	359.05	OK
	Final Mean for 3 Valid Peaks = 1.479E+02+/- 3.549E+02 (240.00%)						

Nuclide Type: ACTIVATION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
NB-95M	235.69	25.00*	1.831E+00	2.017E-01	2.758E+01	125.38	OK
	Final Mean for 1 Valid Peaks = 2.758E+01+/- 3.459E+01 (125.38%)						
AM-243	74.67	66.00*	2.598E+00	1.549E+00	1.549E+00	16.40	OK
	Final Mean for 1 Valid Peaks = 1.549E+00+/- 2.542E-01 (16.40%)						

Nuclide Type: FISSION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
CD-109	88.03	3.72*	2.618E+00	6.190E+00	6.431E+00	30.66	OK
	Final Mean for 1 Valid Peaks = 6.431E+00+/- 1.972E+00 (30.66%)						
SN-126	87.57	37.00*	2.618E+00	6.223E-01	6.223E-01	30.03	OK
	Final Mean for 1 Valid Peaks = 6.223E-01+/- 1.869E-01 (30.03%)						
CS-137	661.65	85.12*	8.333E-01	5.345E-01	5.354E-01	29.63	OK
	Final Mean for 1 Valid Peaks = 5.354E-01+/- 1.587E-01 (29.63%)						
NP-237	86.50	12.60*	2.619E+00	1.827E+00	1.827E+00	29.90	OK
	Final Mean for 1 Valid Peaks = 1.827E+00+/- 5.463E-01 (29.90%)						

Flag: "*" = Keyline

---- Identified Nuclides ----

Nuclide	Activity (pCi/gram)	Act error	MDA (pCi/gram)	MDA error	Act/MDA
K-40	2.773E+01	3.833E+00	8.893E-01	9.118E-02	31.183
GA-67	1.479E+02	3.549E+02	4.822E+01	1.700E+02	3.067
NB-95M	2.758E+01	3.459E+01	4.337E+01	3.566E+00	0.636
CD-109	6.431E+00	1.972E+00	2.065E+00	3.186E-01	3.115
SN-126	6.223E-01	1.869E-01	1.997E-01	2.823E-02	3.116
CS-137	5.354E-01	1.587E-01	1.158E-01	9.998E-03	4.625
PB-210	2.032E+00	2.125E+00	1.926E+00	1.615E-01	1.055
BI-214	2.737E+00	3.309E-01	2.185E-01	1.961E-02	12.528
PB-214	2.932E+00	2.946E-01	2.170E-01	1.901E-02	13.512
RA-224	6.691E+00	1.695E+00	1.916E+00	1.577E-01	3.492
RA-226	5.222E+00	9.862E+00	2.473E+00	4.527E+00	2.112
AC-228	1.668E+00	3.528E-01	3.898E-01	3.506E-02	4.279
TH-234	6.092E+00	3.033E+00	2.294E+00	1.911E-01	2.655
NP-237	1.827E+00	5.463E-01	5.859E-01	8.122E-02	3.118
AM-243	1.549E+00	2.542E-01	1.296E-01	1.421E-02	11.952

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
BE-7	2.843E-01		6.913E-01	1.170E+00	1.082E-01	0.243
NA-22	-1.760E-02		7.312E-02	1.251E-01	1.233E-02	-0.141
AL-26	7.372E-03		3.785E-02	7.509E-02	6.788E-03	0.098
TI-44	4.495E-02		6.637E-02	9.509E-02	8.916E-03	0.473
SC-46	-4.119E-03		7.338E-02	1.306E-01	1.171E-02	-0.032
V-48	-1.974E-03		2.024E-01	3.588E-01	3.284E-02	-0.006
CR-51	-7.313E-01		1.035E+00	1.462E+00	1.316E-01	-0.500
MN-54	2.593E-03		7.428E-02	1.316E-01	1.182E-02	0.020
CO-56	-3.993E-02		7.497E-02	1.267E-01	1.138E-02	-0.315
CO-57	5.026E-03		5.326E-02	8.978E-02	7.615E-03	0.056
CO-58	3.931E-02		7.749E-02	1.335E-01	1.199E-02	0.295
FE-59	6.897E-02		1.905E-01	3.482E-01	3.457E-02	0.198
CO-60	-1.661E-02		8.361E-02	1.439E-01	1.334E-02	-0.115
ZN-65	6.345E-02		1.865E-01	3.038E-01	2.822E-02	0.209
SE-75	-4.197E-02		9.846E-02	1.444E-01	1.197E-02	-0.291
RB-82	-7.062E-01		1.116E+00	1.640E+00	1.464E-01	-0.431
RB-83	-1.805E-03		1.388E-01	2.393E-01	3.827E-02	-0.008
KR-85	1.804E+01		1.443E+01	2.548E+01	2.359E+00	0.708
SR-85	1.032E-01		8.257E-02	1.458E-01	1.350E-02	0.708
Y-88	-2.334E-02		6.546E-02	1.036E-01	9.248E-03	-0.225
NB-93M	-5.501E+01		1.717E+01	5.034E+00	1.515E+00	-10.929
NB-94	-4.774E-03		5.875E-02	1.044E-01	9.368E-03	-0.046
NB-95	2.913E-01		1.337E-01	2.492E-01	2.221E-02	1.169
ZR-95	1.018E-01		1.465E-01	2.758E-01	2.686E-02	0.369
RU-103	1.004E-01		8.845E-02	1.695E-01	2.468E-02	0.592
RU-106	-8.251E-02		6.095E-01	1.080E+00	1.463E-01	-0.076
AG-108M	-1.112E-01		7.265E-02	1.112E-01	9.801E-03	-1.000
AG-110M	1.152E-01		8.295E-02	1.478E-01	1.279E-02	0.780

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
SN-113	-7.500E-02		8.786E-02	1.503E-01	1.384E-02	-0.499
TE123M	-1.895E-02		6.815E-02	1.031E-01	8.297E-03	-0.184
SB-124	-5.694E-03		8.659E-02	1.384E-01	1.247E-02	-0.041
I-125	3.779E-01		1.323E+00	2.307E+00	2.366E-01	0.164
SB-125	-8.395E-02		1.832E-01	3.206E-01	2.974E-02	-0.262
SB-126	-2.827E-01		5.016E-01	8.501E-01	7.489E-02	-0.333
SB-127	-5.092E+00		1.576E+01	2.749E+01	2.393E+00	-0.185
I-129	6.525E-02		1.831E-01	3.083E-01	3.779E-02	0.212
I-131	1.141E-01		5.067E-01	9.304E-01	8.213E-02	0.123
TE-132	-1.314E+00		1.295E+01	2.125E+01	1.745E+00	-0.062
BA-133	3.288E-02		8.857E-02	1.379E-01	1.835E-02	0.238
CS-134	3.727E-02		6.962E-02	1.171E-01	1.056E-02	0.318
CS-135	5.743E-01		3.433E-01	5.722E-01	4.704E-02	1.004
CS-136	3.007E-02		3.375E-01	6.044E-01	5.727E-02	0.050
LA-138	-3.586E-02		8.337E-02	1.398E-01	1.409E-02	-0.256
CE-139	5.455E-03		6.499E-02	1.085E-01	8.641E-03	0.050
BA-140	-4.654E-01		8.574E-01	1.457E+00	4.851E-01	-0.320
LA-140	-2.277E-01		2.416E-01	3.992E-01	3.895E-02	-0.570
CE-141	5.546E-02		1.657E-01	2.752E-01	6.283E-02	0.202
CE-144	-7.411E-02		4.304E-01	7.154E-01	5.964E-02	-0.104
PM-144	-5.667E-02		6.273E-02	1.031E-01	9.019E-03	-0.550
PM-145	-2.659E-01		3.236E-01	4.551E-01	2.971E-01	-0.584
PM-146	1.049E-01		1.491E-01	2.542E-01	2.339E-02	0.413
ND-147	4.197E-01		1.983E+00	3.626E+00	3.351E-01	0.116
EU-152	1.008E+00	+	4.917E-01	9.767E-01	1.185E-01	1.032
GD-153	6.213E-02		2.271E-01	3.584E-01	4.178E-02	0.173
EU-154	-5.001E-02		2.030E-01	3.472E-01	3.422E-02	-0.144
EU-155	7.523E-01	+	2.249E-01	3.308E-01	4.586E-02	2.274
EU-156	1.765E+00		1.877E+00	3.335E+00	7.662E-01	0.529
HO-166M	-3.405E-02		1.074E-01	1.869E-01	1.642E-02	-0.182
HF-172	-6.716E-02		3.969E-01	6.607E-01	5.567E-02	-0.102
LU-172	2.957E-01		1.700E+00	3.039E+00	2.818E-01	0.097
LU-173	4.347E-01		3.098E-01	4.572E-01	3.755E-02	0.951
HF-175	-7.287E-02		1.036E-01	1.246E-01	1.084E-02	-0.585
LU-176	-1.422E-02		5.685E-02	8.404E-02	7.093E-03	-0.169
TA-182	1.517E+00	+	4.468E-01	7.750E-01	7.193E-02	1.957
IR-192	3.464E-02		1.430E-01	2.376E-01	2.193E-02	0.146
HG-203	-5.854E-04		1.070E-01	1.619E-01	1.369E-02	-0.004
BI-207	5.524E-02		5.597E-02	1.070E-01	9.789E-03	0.516
TL-208	1.869E+00	+	3.692E-01	6.256E-01	5.692E-02	2.987
BI-210M	-3.807E-02		1.141E-01	1.686E-01	1.387E-02	-0.226
PB-211	-5.627E-01		1.895E+00	3.349E+00	3.020E-01	-0.168
BI-212	6.860E-01		5.526E-01	1.063E+00	9.386E-02	0.645
PB-212	2.105E+00		2.676E-01	4.001E-01	3.292E-02	5.260
RN-219	3.294E-01		8.311E-01	1.523E+00	1.371E-01	0.216
RA-223	-7.636E-01		1.277E+00	1.821E+00	1.561E-01	-0.419
RA-225	-7.009E-01		6.174E-01	9.307E-01	8.639E-02	-0.753
TH-227	4.389E-01	+	5.503E-01	1.050E+00	8.631E-02	0.418

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
TH-230	1.050E+01		1.689E+01	2.415E+01	2.253E+00	0.435
PA-231	1.917E+00		2.203E+00	3.797E+00	3.192E-01	0.505
TH-231	-2.673E-01		8.251E-01	1.410E+00	2.077E-01	-0.190
PA-233	-1.266E-02		2.444E-01	3.998E-01	8.956E-02	-0.032
PA-234	-5.418E-02		2.153E-01	3.567E-01	2.983E-02	-0.152
PA-234M	5.252E+00		7.916E+00	1.480E+01	1.358E+00	0.355
U-235	1.770E-01		4.281E-01	7.256E-01	1.256E-01	0.244
AM-241	2.670E-02		1.457E-01	2.496E-01	1.867E-02	0.107
CM-243	5.638E-01	+	4.836E-01	6.390E-01	5.241E-02	0.882

Sample ID : 1201163-15 Acquisition date : 22-FEB-2012 14:13:52

Total number of lines in spectrum	68	
Number of unidentified lines	32	
Number of lines tentatively identified by NID	36	52.94%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.773E+01	2.773E+01	0.383E+01	13.82	
PB-210	22.26Y	1.00	2.027E+00	2.032E+00	2.125E+00	104.56	
BI-214	1602.00Y	1.00	2.737E+00	2.737E+00	0.331E+00	12.09	
PB-214	1602.00Y	1.00	2.932E+00	2.932E+00	0.295E+00	10.05	
RA-224	1.41E+10Y	1.00	6.691E+00	6.691E+00	1.695E+00	25.33	
RA-226	1602.00Y	1.00	5.221E+00	5.222E+00	9.862E+00	188.87	
AC-228	1.41E+10Y	1.00	1.668E+00	1.668E+00	0.353E+00	21.15	
TH-234	4.47E+09Y	1.00	6.092E+00	6.092E+00	3.033E+00	49.79	
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	Total Activity :		5.510E+01	5.510E+01			

Nuclide Type : ACTIVATION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
GA-67	3.26D	231.	6.389E-01	1.479E+02	3.549E+02	240.00	
NB-95M	3.61D	137.	2.017E-01	2.758E+01	3.459E+01	125.38	
AM-243	7380.00Y	1.00	1.549E+00	1.549E+00	0.254E+00	16.40	
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	Total Activity :		2.390E+00	1.770E+02			

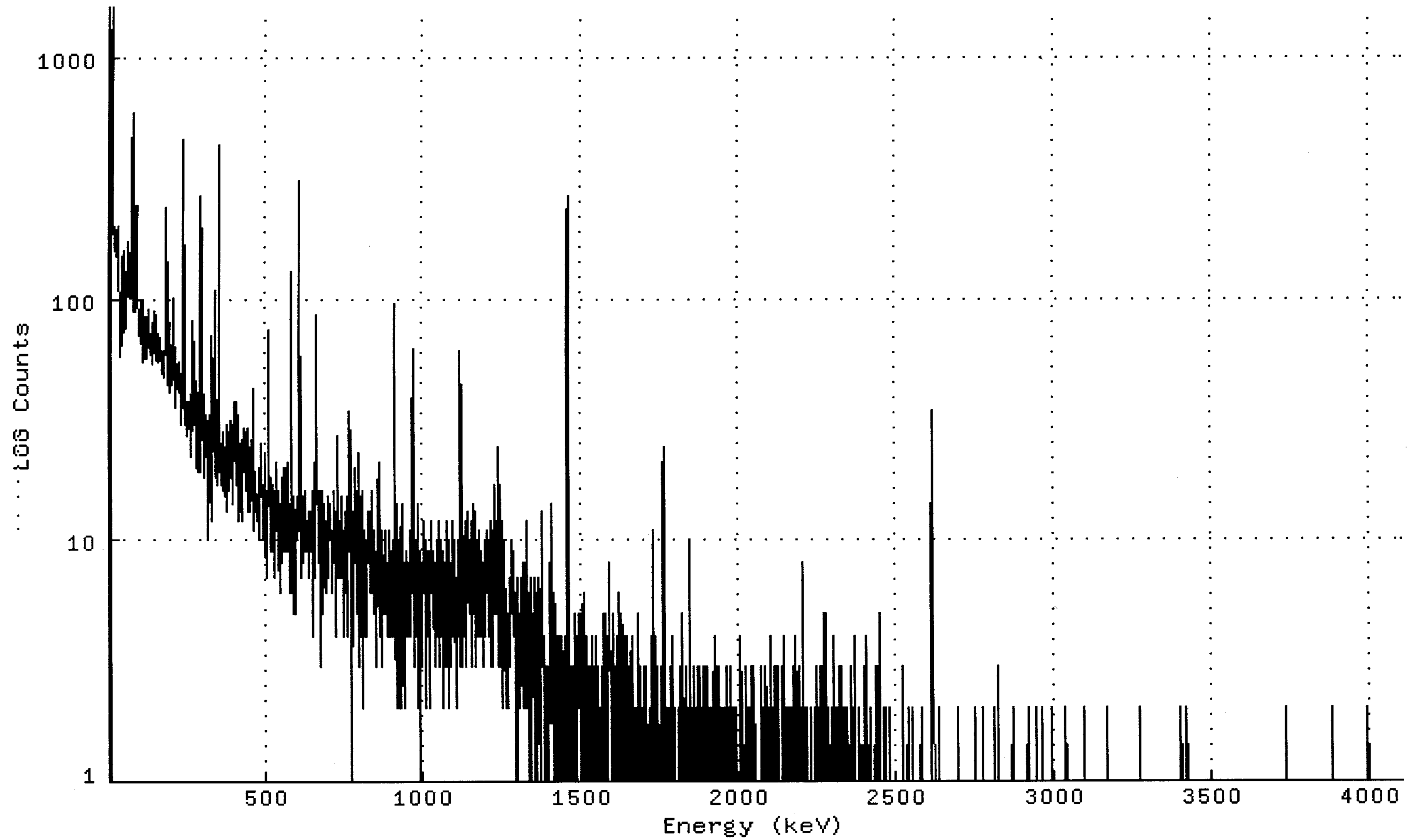
Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CD-109	464.00D	1.04	6.190E+00	6.431E+00	1.972E+00	30.66	
SN-126	1.00E+05Y	1.00	6.223E-01	6.223E-01	1.869E-01	30.03	
CS-137	30.17Y	1.00	5.345E-01	5.354E-01	1.587E-01	29.63	
NP-237	2.14E+06Y	1.00	1.827E+00	1.827E+00	0.546E+00	29.90	
			---------	---------			
	Total Activity :		9.174E+00	9.416E+00			

Grand Total Activity : 6.666E+01 2.415E+02

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Spectrum   : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116315_GE2_GAS1102_176271.CNF;1
Title   :
Sample Title: JMBJGD-NW-31-120128
Start Time: 22-FEB-2012 14:13   Sample Time: 28-JAN-2012 00:00   Energy Offset: 6.87229E-02
Real Time : 0 01:00:01.21   Sample ID : 1201163-15   Energy Slope : 9.99625E-01
Live Time : 0 01:00:00.00   Sample Type: SOLID   Energy Quad : 0.00000E+00



0328

Channel Contents for DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116315_GE2_GAS1102_1762

Channel

1:	0	0	0	0	0	1	0	181
9:	722	1112	1482	781	612	1628	381	186
17:	199	161	157	171	156	167	175	172
25:	187	188	150	185	199	177	163	135
33:	117	119	93	106	82	57	77	86
41:	64	72	80	77	83	144	158	74
49:	91	73	89	89	102	94	92	75
57:	105	129	121	102	118	113	173	168
65:	140	100	123	149	119	120	101	131
73:	151	203	458	181	589	272	125	89
81:	108	99	89	148	131	99	240	184
89:	109	184	104	168	241	148	93	86
97:	82	77	81	72	70	78	70	89
105:	98	80	75	54	85	68	67	99
113:	75	72	78	75	58	84	56	63
121:	83	56	73	72	64	71	73	71
129:	90	69	63	68	60	68	71	63
137:	62	53	68	65	62	57	71	88
145:	59	68	65	65	66	69	55	63
153:	69	76	85	60	54	63	63	61
161:	56	60	67	69	56	64	60	49
169:	54	57	52	61	51	56	59	47
177:	47	58	61	58	66	64	60	71
185:	105	236	84	50	65	55	52	44
193:	54	54	41	46	52	79	51	44
201:	57	53	45	48	57	63	46	55
209:	101	67	46	56	35	56	41	63
217:	46	43	47	42	42	51	43	54
225:	41	51	46	52	36	39	37	49
233:	37	30	41	59	51	332	457	92
241:	105	167	69	35	49	33	27	29
249:	29	37	30	34	34	31	29	30
257:	33	37	32	38	28	40	31	22
265:	35	29	33	38	39	80	54	43
273:	30	34	44	44	44	45	40	20
281:	38	35	33	33	24	23	19	41
289:	35	36	21	30	19	81	263	146
297:	29	26	35	53	42	38	27	34
305:	18	28	24	33	31	25	33	22
313:	27	26	18	26	31	25	10	33
321:	29	17	22	27	17	12	39	70
329:	34	34	20	27	30	30	33	25
337:	30	108	75	22	21	18	32	20
345:	27	17	21	38	31	34	208	428
353:	99	19	35	17	22	19	25	17
361:	21	16	27	17	20	28	19	22
369:	15	24	19	20	23	22	19	19
377:	13	21	17	30	19	20	28	16
385:	23	28	18	31	25	20	20	23
393:	14	19	19	20	30	19	24	22
401:	37	24	28	22	20	32	24	37
409:	25	17	33	24	12	22	20	24
417:	17	16	14	21	13	24	26	18
425:	12	19	20	21	24	19	21	21

433:	29	20	28	20	19	17	16	22
441:	29	17	13	17	18	20	20	15
449:	19	22	13	24	23	26	20	18
457:	17	15	16	13	11	33	42	23
465:	21	14	19	18	17	13	17	14
473:	12	15	14	13	14	14	14	20
481:	10	15	16	15	25	19	22	24
489:	23	12	12	13	17	10	17	17
497:	13	14	23	15	10	7	12	16
505:	16	15	13	14	27	69	74	39
513:	20	17	10	18	10	14	9	15
521:	17	14	9	13	11	14	11	16
529:	7	13	15	15	18	21	11	13
537:	19	9	13	10	16	12	9	6
545:	14	11	9	14	14	14	14	18
553:	12	8	16	12	15	12	18	11
561:	9	20	20	9	15	13	20	13
569:	18	18	14	11	21	13	6	10
577:	14	9	6	12	13	49	128	74
585:	12	6	9	14	5	13	8	15
593:	12	9	9	5	13	9	15	12
601:	10	11	15	15	12	18	11	85
609:	303	152	22	13	7	9	12	13
617:	15	14	14	11	15	8	16	10
625:	9	13	9	11	11	12	9	12
633:	10	10	9	13	10	8	7	12
641:	10	11	11	11	10	9	11	16
649:	4	11	6	13	8	8	10	15
657:	7	9	15	29	85	70	20	14
665:	15	16	9	9	10	8	11	8
673:	10	5	10	3	16	13	6	6
681:	10	16	5	8	14	9	9	10
689:	12	6	12	12	10	11	6	11
697:	7	9	10	9	15	11	14	14
705:	12	11	10	11	10	11	9	6
713:	9	10	11	8	10	12	16	11
721:	6	12	7	10	4	17	27	18
729:	7	10	10	9	7	9	12	12
737:	9	9	13	7	8	12	15	10
745:	5	7	7	11	4	8	7	8
753:	6	8	13	10	10	10	15	4
761:	5	11	13	10	15	9	24	34
769:	24	6	10	15	12	1	13	8
777:	9	9	9	11	12	12	8	11
785:	12	20	13	7	6	10	8	8
793:	3	22	23	9	6	8	11	14
801:	15	7	10	4	8	13	16	2
809:	5	10	9	6	8	11	4	6
817:	8	4	7	9	10	10	9	10
825:	11	9	11	8	13	13	9	6
833:	13	7	9	16	10	9	6	13
841:	8	11	9	9	6	9	5	9
849:	3	5	8	9	4	7	6	10
857:	9	7	15	21	13	9	4	7
865:	6	8	6	11	9	3	3	8
873:	8	8	6	8	7	11	8	5
881:	7	10	9	5	7	8	4	7
889:	6	7	11	4	6	6	7	6
897:	5	8	6	9	4	6	10	7
905:	5	10	4	8	11	41	94	38

913:	10	5	2	8	4	5	3	14
921:	7	5	2	8	5	7	7	3
929:	5	2	2	11	12	14	10	11
937:	5	3	2	8	2	3	5	7
945:	8	4	9	9	7	9	7	4
953:	6	8	7	5	4	6	9	11
961:	8	7	6	20	22	6	14	24
969:	62	18	5	4	8	3	10	6
977:	6	9	7	4	10	14	4	6
985:	6	4	1	8	6	7	2	9
993:	5	3	5	8	3	5	11	6
1001:	12	8	7	11	9	5	8	10
1009:	6	2	6	4	9	9	7	7
1017:	6	4	2	9	2	7	8	6
1025:	8	12	6	11	6	6	5	5
1033:	7	9	6	3	8	4	7	7
1041:	4	5	4	6	10	9	5	5
1049:	6	12	3	7	4	9	7	10
1057:	10	4	6	8	9	9	2	5
1065:	9	5	8	3	5	8	6	3
1073:	9	12	9	5	6	10	9	2
1081:	6	6	7	8	3	7	8	6
1089:	7	6	7	7	6	4	9	12
1097:	6	4	10	8	8	7	2	5
1105:	5	7	4	6	4	7	5	9
1113:	10	6	7	3	5	8	26	60
1121:	32	10	10	5	3	9	6	4
1129:	4	6	10	9	12	7	5	3
1137:	5	5	6	6	8	8	10	13
1145:	7	6	5	10	9	10	3	8
1153:	7	10	12	5	8	5	8	5
1161:	14	10	3	6	5	7	13	9
1169:	4	7	9	6	8	10	5	5
1177:	11	8	6	4	4	9	4	8
1185:	9	5	7	6	3	6	5	8
1193:	6	4	10	7	7	8	10	7
1201:	9	6	11	10	7	10	9	9
1209:	7	4	8	5	3	5	8	12
1217:	11	8	3	7	11	4	7	8
1225:	17	6	5	8	5	5	7	6
1233:	8	12	9	3	22	24	19	6
1241:	6	11	10	3	17	10	11	5
1249:	7	12	4	8	2	4	3	6
1257:	4	6	10	4	3	4	2	5
1265:	3	3	5	4	5	2	4	4
1273:	6	4	3	7	3	5	5	5
1281:	10	8	5	8	4	5	5	4
1289:	5	9	4	5	3	6	1	5
1297:	3	1	6	7	4	4	4	5
1305:	3	4	4	2	3	4	4	7
1313:	6	5	4	2	5	7	8	2
1321:	2	3	4	3	7	8	2	4
1329:	5	3	12	5	5	3	1	5
1337:	5	6	4	7	1	4	4	1
1345:	5	4	3	3	5	4	5	2
1353:	3	0	7	2	4	4	1	4
1361:	6	3	2	6	3	5	7	4
1369:	2	1	2	3	4	4	4	10
1377:	8	13	9	3	3	4	2	4
1385:	3	4	0	1	2	2	3	3

1393:	2	2	2	1	1	3	1	3
1401:	8	2	6	2	4	3	7	14
1409:	7	2	3	0	0	2	2	2
1417:	6	5	1	1	3	2	3	4
1425:	3	4	1	2	2	2	4	3
1433:	1	3	1	4	3	0	1	3
1441:	3	1	3	3	2	2	3	4
1449:	3	1	2	3	1	4	0	0
1457:	6	4	75	205	266	109	10	1
1465:	4	3	2	3	2	2	0	1
1473:	3	1	1	2	0	1	1	5
1481:	2	2	2	1	4	2	2	1
1489:	1	2	2	2	3	4	2	5
1497:	5	1	3	3	2	4	2	1
1505:	5	3	2	5	6	4	1	3
1513:	4	3	3	2	3	4	1	1
1521:	2	3	1	1	2	0	2	3
1529:	1	0	1	1	1	3	4	0
1537:	1	2	0	1	2	3	3	3
1545:	1	3	2	0	0	4	2	1
1553:	2	3	0	3	1	1	2	0
1561:	2	2	1	2	1	3	1	0
1569:	0	0	1	2	0	3	5	4
1577:	3	1	5	3	2	2	4	4
1585:	2	1	1	8	4	3	6	5
1593:	4	3	2	1	2	1	2	1
1601:	2	5	2	0	1	2	1	1
1609:	1	3	0	1	2	0	4	2
1617:	3	1	2	0	6	2	0	4
1625:	1	0	2	2	5	4	2	1
1633:	0	1	2	1	2	4	0	0
1641:	0	1	4	3	2	0	0	1
1649:	0	2	2	1	1	3	0	1
1657:	2	2	0	3	4	2	4	1
1665:	2	1	2	1	1	2	0	0
1673:	2	2	2	2	1	1	1	1
1681:	5	2	0	0	3	3	3	0
1689:	0	1	1	2	1	2	2	2
1697:	2	0	0	1	0	3	1	2
1705:	0	0	0	3	0	1	0	1
1713:	1	1	2	1	0	0	2	1
1721:	4	2	1	1	2	0	3	0
1729:	11	8	1	0	1	1	4	1
1737:	1	2	2	2	0	0	2	2
1745:	3	1	1	0	0	1	0	0
1753:	2	0	0	0	3	0	0	1
1761:	2	5	18	24	24	11	1	1
1769:	0	2	0	0	1	0	2	2
1777:	0	1	2	2	2	2	0	1
1785:	2	0	3	1	1	4	3	2
1793:	0	0	0	0	1	2	1	1
1801:	0	1	1	0	1	1	2	1
1809:	0	0	0	1	2	2	3	0
1817:	1	1	1	0	0	3	0	5
1825:	1	1	1	2	1	2	1	2
1833:	1	1	3	0	0	2	0	2
1841:	2	1	3	1	3	4	10	4
1849:	1	1	2	0	0	0	2	0
1857:	0	3	0	2	0	1	2	1
1865:	0	1	1	0	3	2	1	2

1873:	1	3	0	0	1	0	0	1
1881:	1	2	2	1	0	0	1	2
1889:	2	3	3	0	1	1	1	1
1897:	3	2	0	0	1	2	0	0
1905:	1	0	2	1	1	2	1	1
1913:	0	1	1	1	1	2	1	1
1921:	2	4	0	1	1	2	1	3
1929:	1	2	0	0	0	1	2	0
1937:	1	3	0	0	0	2	2	0
1945:	1	0	2	0	1	0	1	1
1953:	1	0	2	0	1	1	0	3
1961:	1	0	0	2	1	1	1	2
1969:	0	0	1	2	3	0	1	0
1977:	1	1	2	0	1	1	0	2
1985:	1	0	0	2	1	1	0	0
1993:	0	1	0	1	1	0	0	1
2001:	1	2	0	2	0	4	2	0
2009:	1	0	0	2	0	0	0	1
2017:	0	1	0	1	1	3	1	0
2025:	0	0	0	0	2	0	0	0
2033:	2	2	0	0	0	1	3	1
2041:	0	0	3	0	1	1	0	3
2049:	1	0	0	1	1	1	0	0
2057:	1	1	0	0	0	1	0	1
2065:	0	1	1	0	3	3	0	0
2073:	1	0	1	2	0	2	0	2
2081:	2	1	0	3	2	0	1	0
2089:	1	0	1	1	2	1	1	0
2097:	0	1	2	2	2	0	4	1
2105:	2	1	1	1	0	0	1	0
2113:	1	3	1	0	1	1	3	0
2121:	0	0	3	0	0	0	1	1
2129:	1	0	1	0	0	1	0	0
2137:	3	0	0	1	2	1	0	4
2145:	0	1	2	1	2	1	0	2
2153:	1	1	0	1	0	2	2	2
2161:	0	1	0	1	1	1	2	1
2169:	1	0	1	0	1	0	3	1
2177:	3	1	0	1	4	2	1	1
2185:	0	0	1	1	1	3	0	0
2193:	1	0	0	0	0	0	0	2
2201:	1	5	8	7	3	1	1	1
2209:	1	0	2	0	2	0	0	0
2217:	0	1	0	0	1	1	0	0
2225:	0	2	1	1	0	1	0	0
2233:	0	1	1	0	1	0	1	2
2241:	1	2	1	2	0	0	3	3
2249:	1	1	1	1	0	2	0	0
2257:	1	1	0	3	2	3	0	0
2265:	1	0	2	5	1	1	1	3
2273:	2	0	0	2	5	2	0	0
2281:	2	1	2	1	1	0	0	1
2289:	1	0	1	2	0	0	1	0
2297:	0	1	0	1	4	1	1	2
2305:	2	0	1	1	0	1	0	2
2313:	1	1	1	0	3	0	1	0
2321:	0	1	0	3	1	1	0	0
2329:	0	0	1	2	2	0	2	0
2337:	2	2	0	0	1	0	0	1
2345:	2	1	1	0	1	0	1	1

2353:	3	0	1	1	1	2	1	1
2361:	2	1	1	1	1	1	4	2
2369:	1	1	0	0	0	1	1	0
2377:	1	0	0	1	0	2	1	1
2385:	0	1	0	1	0	1	0	1
2393:	0	1	2	2	1	0	3	1
2401:	0	0	4	1	2	0	0	0
2409:	0	0	0	1	2	0	2	1
2417:	0	0	0	1	0	0	1	0
2425:	0	1	0	0	0	0	2	0
2433:	0	3	1	1	0	2	3	3
2441:	1	1	0	0	1	2	5	0
2449:	1	1	0	1	1	1	0	1
2457:	0	2	1	0	0	2	0	0
2465:	0	0	0	0	1	0	0	1
2473:	0	0	0	2	0	1	1	1
2481:	1	1	1	1	1	1	0	1
2489:	1	0	0	0	0	1	0	1
2497:	0	1	0	1	0	1	1	0
2505:	0	0	0	0	0	0	0	1
2513:	0	1	0	1	1	1	0	3
2521:	0	0	0	1	0	0	0	0
2529:	0	0	1	1	1	2	0	0
2537:	0	0	0	0	1	0	0	0
2545:	1	1	0	0	2	0	0	1
2553:	0	0	0	0	0	0	1	0
2561:	0	0	0	0	0	0	0	0
2569:	0	0	0	0	0	0	0	0
2577:	2	1	0	0	0	0	0	0
2585:	0	1	1	1	0	0	0	0
2593:	1	0	1	0	0	0	0	0
2601:	0	1	0	0	0	0	0	0
2609:	0	1	4	9	22	34	19	11
2617:	3	2	1	0	1	0	0	1
2625:	0	1	0	0	0	1	0	0
2633:	0	0	2	0	0	0	0	0
2641:	0	0	1	0	0	0	0	1
2649:	0	1	0	1	1	0	0	0
2657:	1	0	0	1	1	0	0	0
2665:	0	0	0	0	1	0	0	0
2673:	0	0	0	0	0	0	1	0
2681:	0	0	1	0	0	0	1	0
2689:	0	0	0	1	2	0	1	1
2697:	0	0	0	0	0	0	0	0
2705:	0	0	0	0	1	0	1	0
2713:	0	1	1	0	1	0	1	1
2721:	0	0	0	1	1	0	1	0
2729:	0	0	0	0	0	0	0	0
2737:	0	0	0	0	0	1	0	1
2745:	0	1	0	0	2	0	0	0
2753:	0	0	0	0	0	0	0	0
2761:	0	0	0	0	0	0	0	1
2769:	0	0	1	0	0	1	2	0
2777:	0	0	0	1	0	0	0	0
2785:	0	0	0	0	1	0	0	0
2793:	0	0	1	1	0	0	0	0
2801:	0	0	0	0	0	0	0	1
2809:	0	2	0	1	0	0	1	0
2817:	0	0	0	0	0	0	3	0
2825:	0	0	0	0	0	0	1	1

2833:	0	1	0	0	0	1	0	0
2841:	0	1	0	0	0	0	0	1
2849:	0	0	0	0	1	0	0	1
2857:	0	0	0	0	1	0	0	0
2865:	0	1	0	2	1	1	0	0
2873:	0	1	0	0	1	0	1	0
2881:	1	0	1	0	0	1	0	0
2889:	0	0	0	1	0	0	0	0
2897:	0	1	0	0	0	0	1	1
2905:	0	1	0	0	0	0	0	0
2913:	0	0	1	0	2	0	0	0
2921:	1	0	1	0	0	0	0	0
2929:	0	0	0	0	0	0	0	0
2937:	0	1	0	0	0	0	2	0
2945:	0	0	0	0	0	0	0	0
2953:	0	0	1	0	0	0	0	0
2961:	0	0	2	0	0	0	0	1
2969:	1	0	0	0	1	0	0	0
2977:	0	0	0	0	0	0	0	0
2985:	1	0	0	0	0	1	2	0
2993:	1	0	0	0	0	0	0	0
3001:	0	0	0	0	0	0	0	0
3009:	0	0	1	0	0	0	0	1
3017:	1	0	0	0	0	1	0	0
3025:	0	0	0	0	0	0	0	0
3033:	0	0	0	2	2	1	1	0
3041:	0	0	0	0	0	0	0	0
3049:	0	0	0	0	0	0	1	0
3057:	0	0	0	1	0	0	0	0
3065:	0	0	0	0	0	0	0	0
3073:	0	0	0	1	0	0	0	0
3081:	1	0	0	0	0	0	0	1
3089:	0	1	0	1	0	0	2	0
3097:	0	0	0	0	0	0	0	0
3105:	0	0	1	0	1	0	0	0
3113:	0	1	1	1	0	0	0	0
3121:	1	0	0	0	0	0	1	0
3129:	0	0	0	0	1	0	1	0
3137:	1	0	0	0	0	0	0	1
3145:	0	0	0	0	0	1	0	0
3153:	0	0	0	0	0	1	0	0
3161:	0	0	1	0	0	0	0	0
3169:	2	0	0	1	0	0	1	1
3177:	1	0	0	0	0	0	0	0
3185:	0	1	0	0	0	1	0	0
3193:	1	0	0	1	1	0	0	1
3201:	1	1	0	1	0	0	0	1
3209:	0	0	0	0	1	0	0	0
3217:	0	0	0	0	0	0	0	0
3225:	0	0	0	0	0	0	0	0
3233:	1	0	0	0	0	0	0	0
3241:	0	0	0	0	0	0	0	0
3249:	0	0	0	0	0	1	1	0
3257:	0	0	1	0	0	0	0	0
3265:	0	0	0	1	0	0	0	2
3273:	0	0	0	0	0	0	0	0
3281:	0	0	0	0	0	0	0	0
3289:	1	1	0	1	0	0	1	0
3297:	0	0	0	1	1	0	1	0
3305:	0	0	1	0	0	0	0	0

3313:	0	1	0	0	0	1	0	0
3321:	0	0	0	0	1	0	0	0
3329:	0	0	0	0	0	0	0	0
3337:	1	0	0	0	1	0	0	0
3345:	0	0	0	0	0	1	0	0
3353:	0	0	0	0	0	0	0	0
3361:	0	0	0	1	0	0	0	0
3369:	0	0	0	0	0	0	0	0
3377:	0	0	0	0	0	0	0	0
3385:	0	0	0	0	1	0	0	0
3393:	0	0	0	0	0	0	0	0
3401:	2	0	0	0	0	0	0	0
3409:	0	0	0	1	0	0	0	0
3417:	1	1	2	0	0	0	0	1
3425:	0	0	0	0	0	0	0	0
3433:	0	0	0	0	0	0	0	0
3441:	0	0	1	0	0	0	0	0
3449:	0	0	0	0	0	0	0	1
3457:	0	0	0	0	0	0	0	0
3465:	0	0	0	0	0	0	0	0
3473:	0	1	0	0	0	0	0	1
3481:	0	0	0	1	0	0	0	0
3489:	0	0	0	0	0	0	0	0
3497:	0	0	0	0	1	0	0	0
3505:	0	0	0	0	0	0	0	0
3513:	0	0	0	0	0	0	0	1
3521:	0	0	0	0	0	1	1	0
3529:	0	0	0	0	0	0	0	0
3537:	0	0	0	1	0	0	1	0
3545:	0	1	1	0	0	0	0	0
3553:	0	0	0	0	0	0	1	0
3561:	0	0	0	0	0	0	0	1
3569:	1	0	0	0	0	0	1	0
3577:	0	1	0	1	0	0	1	0
3585:	0	1	0	1	0	0	0	1
3593:	0	0	1	0	1	0	0	0
3601:	0	0	1	0	0	0	0	0
3609:	0	0	0	1	0	0	0	0
3617:	0	0	0	0	0	0	0	0
3625:	0	0	1	1	0	0	0	0
3633:	0	0	0	0	0	0	0	1
3641:	0	0	0	0	1	0	1	0
3649:	0	0	0	0	0	0	0	0
3657:	0	0	0	0	0	0	0	0
3665:	0	0	1	0	0	0	1	1
3673:	0	0	1	0	0	0	1	0
3681:	0	0	0	0	0	0	0	0
3689:	0	0	0	0	0	0	0	0
3697:	0	0	0	0	1	0	0	0
3705:	1	0	0	0	0	1	0	0
3713:	0	0	0	0	0	0	0	0
3721:	0	0	0	0	1	0	0	0
3729:	0	2	0	0	1	0	0	0
3737:	1	1	0	0	0	0	0	0
3745:	0	1	0	0	0	0	0	1
3753:	0	0	0	0	1	0	0	0
3761:	0	0	0	0	0	0	0	0
3769:	0	0	0	1	1	0	0	0
3777:	0	1	0	0	0	0	0	0
3785:	0	0	0	0	0	1	0	0

3793:	0	0	0	0	0	0	0	0
3801:	0	0	0	0	0	0	0	0
3809:	0	0	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0
3825:	0	0	0	0	0	0	0	0
3833:	1	0	1	0	0	0	1	1
3841:	0	0	0	0	0	0	0	0
3849:	0	0	1	0	0	1	0	0
3857:	0	0	0	0	0	0	0	0
3865:	1	0	0	0	0	0	0	0
3873:	0	0	0	2	1	0	0	0
3881:	0	0	0	0	0	0	0	0
3889:	0	0	0	0	0	0	0	0
3897:	0	0	0	0	0	0	0	0
3905:	0	0	0	0	0	0	0	0
3913:	0	0	1	0	0	0	0	0
3921:	0	0	0	0	0	0	0	0
3929:	0	0	0	0	0	0	0	0
3937:	0	0	0	0	0	0	0	0
3945:	0	0	0	0	1	1	0	0
3953:	0	0	0	0	0	0	1	0
3961:	0	1	0	0	0	0	0	0
3969:	1	1	0	0	0	0	0	0
3977:	0	0	0	0	0	0	0	1
3985:	0	0	1	0	2	1	0	0
3993:	0	0	0	1	0	1	1	0
4001:	0	0	0	0	0	0	0	0
4009:	0	0	0	0	0	0	1	0
4017:	0	0	0	0	0	1	0	0
4025:	1	0	1	0	0	0	0	0
4033:	0	0	0	0	1	0	0	0
4041:	0	0	1	0	0	0	0	0
4049:	0	0	0	0	0	0	0	0
4057:	0	0	0	0	0	0	0	0
4065:	0	0	1	0	0	0	0	0
4073:	1	0	0	1	1	0	0	1
4081:	0	0	0	0	0	0	0	0
4089:	0	0	0	0	0	0	0	0

KB
2/22/12

Sample ID : 1201163-16 Acquisition date : 22-FEB-2012 14:26:56

VAX/VMS Peak Search Report Generated 22-FEB-2012 15:27:10.95

Configuration : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116316_GE4_GAS1102_176272.
Analyses by : PEAK V16.9 ENBACK V1.6 PEAKEFF V2.2
Client ID : JMBKGD-NE-31-120128
Deposition Date :
Sample Date : 28-JAN-2012 00:00:00 Acquisition date : 22-FEB-2012 14:26:56
Sample ID : 1201163-16 Sample Quantity : 3.69000E+02 gram
Sample type : SOLID Sample Geometry : 0
Detector name : GE4 Detector Geometry: GAS-1102
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:01.26 0.0%
Start channel : 5 End channel : 4096
Sensitivity : 2.40000 Gaussian : 15.00000
Critical level : Yes

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
1	43.82	50	135	1.80	43.15	41	9	65.4	6.84E+00	
1	46.79*	88	288	2.10	46.13	41	9	67.4		PB-210
0	63.35*	82	498	2.03	62.71	59	8	98.4		TH-234
0	76.33*	496	689	3.82	75.69	71	10	21.9		
0	93.43*	68	387	2.02	92.81	90	7	104.8		
0	100.23	39	196	1.18	99.61	98	5	114.5		
0	128.21	75	363	6.31	127.61	123	10	97.3		
0	186.29*	79	284	1.98	185.73	182	8	79.5		RA-226
0	240.59*	352	385	5.18	240.07	233	19	29.0		RA-224
0	295.40	166	182	1.84	294.92	291	8	32.2		PB-214
0	352.56	343	190	2.26	352.12	347	16	21.0		PB-214
0	424.35	51	93	8.32	423.96	417	11	78.9		
0	463.47	30	68	2.17	463.11	459	9	106.1		
0	480.80	47	98	8.08	480.45	474	15	96.8		
0	594.40	22	32	2.67	594.14	591	7	96.7		
0	609.51*	247	87	2.50	609.26	604	13	20.4		BI-214
0	661.60*	47	33	1.84	661.38	659	6	50.4		CS-137
1	726.40	22	17	2.61	726.24	723	10	71.1	5.15E+00	BI-212
1	729.07	20	17	2.61	728.91	723	10	93.4		
0	747.50	22	24	3.52	747.34	742	9	91.2		
0	753.08	20	17	1.44	752.93	751	7	80.8		
0	769.54	39	41	4.51	769.40	766	11	70.0		
0	806.51	19	27	2.57	806.40	801	10	110.0		
0	862.97	22	23	1.38	862.90	858	12	97.0		
1	910.79	47	20	2.67	910.76	905	18	43.4	2.73E+00	AC-228
1	916.03	12	18	2.43	916.00	905	18	136.3		
0	968.56	38	22	4.74	968.57	963	11	57.7		AC-228
0	1121.04	38	41	2.09	1121.16	1116	11	72.8		BI-214
0	1238.42	28	15	4.64	1238.63	1234	10	64.1		
0	1377.56	15	7	2.04	1377.87	1374	7	76.6		
0	1460.55	152	18	2.55	1460.91	1455	12	19.7		K-40
0	1546.29	5	4	2.02	1546.71	1544	5	146.4		
0	1587.40	5	2	1.95	1587.85	1585	6	113.5		
0	1637.18	12	0	4.87	1637.67	1634	8	57.7		
0	1660.55	12	2	3.93	1661.06	1657	9	75.7		
0	1730.62	12	5	1.81	1731.18	1725	11	94.5		

AG
2/23/12

Sample ID : 1201163-16 Acquisition date : 22-FEB-2012 14:26:56

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
0	1764.30	30	5	3.00	1764.88	1759	10	45.9		BI-214
0	2205.47	17	10	2.43	2206.37	2200	10	84.3		BI-214
0	2297.83	5	0	2.40	2298.80	2294	8	89.4		
0	2614.84	16	2	2.09	2616.04	2611	9	61.1		

Sample ID : 1201163-16 Acquisition date : 22-FEB-2012 14:26:56

Total number of lines in spectrum	40	
Number of unidentified lines	18	
Number of lines tentatively identified by NID	22	55.00%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.614E+01	1.614E+01	0.358E+01	22.16	
PB-210	22.26Y	1.00	2.979E+00	2.986E+00	2.032E+00	68.06	
BI-212	1.41E+10Y	1.00	1.122E+00	1.122E+00	0.807E+00	71.96	
BI-214	1602.00Y	1.00	2.638E+00	2.638E+00	0.522E+00	19.79	
PB-214	1602.00Y	1.00	2.406E+00	2.406E+00	0.480E+00	19.93	
RA-224	1.41E+10Y	1.00	1.805E+01	1.805E+01	0.555E+01	30.74	
RA-226	1602.00Y	1.00	3.974E+00	3.975E+00	7.937E+00	199.69	
AC-228	1.41E+10Y	1.00	1.410E+00	1.410E+00	0.516E+00	36.59	
TH-234	4.47E+09Y	1.00	2.695E+00	2.695E+00	2.662E+00	98.79	
			---------	---------			
	Total Activity :		5.142E+01	5.143E+01			

Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.17Y	1.00	3.004E-01	3.009E-01	1.547E-01	51.41	
			---------	---------			
	Total Activity :		3.004E-01	3.009E-01			

Grand Total Activity : 5.172E+01 5.173E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Nuclide Type: NATURAL

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
K-40	1460.81	10.67*	1.798E-01	1.614E+01	1.614E+01	22.16	OK
	Final Mean for 1 Valid Peaks = 1.614E+01+/- 3.577E+00 (22.16%)						
PB-210	46.50	4.25*	1.407E+00	2.979E+00	2.986E+00	68.06	OK
	Final Mean for 1 Valid Peaks = 2.986E+00+/- 2.032E+00 (68.06%)						
BI-212	727.17	11.80*	3.363E-01	1.122E+00	1.122E+00	71.96	OK
	1620.62	2.75	1.671E-01	-----	Line Not Found	-----	Absent
	Final Mean for 1 Valid Peaks = 1.122E+00+/- 8.071E-01 (71.96%)						
BI-214	609.31	46.30*	4.029E-01	2.691E+00	2.691E+00	23.47	OK
	1120.29	15.10	2.230E-01	2.301E+00	2.302E+00	73.80	OK
	1764.49	15.80	1.582E-01	2.443E+00	2.443E+00	46.93	OK
	2204.22	4.98	1.404E-01	4.978E+00	4.978E+00	84.89	OK
	Final Mean for 4 Valid Peaks = 2.638E+00+/- 5.219E-01 (19.79%)						
PB-214	295.21	19.19	8.368E-01	2.103E+00	2.103E+00	33.95	OK
	351.92	37.19*	7.067E-01	2.656E+00	2.656E+00	24.38	OK
	Final Mean for 2 Valid Peaks = 2.406E+00+/- 4.796E-01 (19.93%)						
RA-224	240.98	3.95*	1.004E+00	1.805E+01	1.805E+01	30.74	OK
	Final Mean for 1 Valid Peaks = 1.805E+01+/- 5.550E+00 (30.74%)						
RA-226	186.21	3.28*	1.229E+00	3.974E+00	3.975E+00	199.69	OK
	Final Mean for 1 Valid Peaks = 3.975E+00+/- 7.937E+00 (199.69%)						
AC-228	338.32	11.40	7.346E-01	-----	Line Not Found	-----	Absent
	911.07	27.70*	2.695E-01	1.287E+00	1.287E+00	45.55	OK
	969.11	16.60	2.542E-01	1.834E+00	1.834E+00	59.27	OK
	Final Mean for 2 Valid Peaks = 1.410E+00+/- 5.160E-01 (36.59%)						
TH-234	63.29	3.80*	1.639E+00	2.695E+00	2.695E+00	98.79	OK
	Final Mean for 1 Valid Peaks = 2.695E+00+/- 2.662E+00 (98.79%)						

Sample ID : 1201163-16 Acquisition date : 22-FEB-2012 14:26:56

Nuclide Type: FISSION

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/gram	Decay Corr pCi/gram	2-Sigma %Error	Status
CS-137	661.65	85.12*	3.702E-01	3.004E-01	3.009E-01	51.41	OK

Final Mean for 1 Valid Peaks = 3.009E-01+/- 1.547E-01 (51.41%)

Flag: "*" = Keyline

---- Identified Nuclides ----

Nuclide	Activity (pCi/gram)	Act error	MDA (pCi/gram)	MDA error	Act/MDA
K-40	1.614E+01	3.577E+00	2.105E+00	1.979E-01	7.669
CS-137	3.009E-01	1.547E-01	2.067E-01	1.915E-02	1.455
PB-210	2.986E+00	2.032E+00	2.884E+00	2.401E-01	1.035
BI-212	1.122E+00	8.071E-01	1.560E+00	1.616E-01	0.719
BI-214	2.638E+00	5.219E-01	3.711E-01	4.018E-02	7.107
PB-214	2.406E+00	4.796E-01	3.638E-01	4.246E-02	6.615
RA-224	1.805E+01	5.550E+00	3.139E+00	2.901E-01	5.752
RA-226	3.975E+00	7.937E+00	3.882E+00	7.109E+00	1.024
AC-228	1.410E+00	5.160E-01	7.587E-01	1.005E-01	1.859
TH-234	2.695E+00	2.662E+00	3.087E+00	2.341E-01	0.873

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
BE-7	6.467E-01		1.239E+00	2.205E+00	2.861E-01	0.293
NA-22	-6.538E-02		1.189E-01	2.066E-01	1.992E-02	-0.316
AL-26	5.232E-02		7.425E-02	1.846E-01	1.574E-02	0.283
TI-44	2.978E-02		1.029E-01	1.255E-01	1.002E-02	0.237
SC-46	1.263E-02		1.535E-01	2.853E-01	3.755E-02	0.044
V-48	-1.067E-01		3.385E-01	6.096E-01	7.762E-02	-0.175
CR-51	-1.027E-01		1.469E+00	2.482E+00	2.730E-01	-0.041
MN-54	4.144E-02		1.177E-01	2.258E-01	2.757E-02	0.183
CO-56	3.581E-03		1.393E-01	2.594E-01	3.221E-02	0.014
CO-57	-5.449E-02		8.309E-02	1.203E-01	1.108E-02	-0.453
CO-58	6.971E-02		1.361E-01	2.441E-01	2.883E-02	0.286
FE-59	-1.392E-01		2.829E-01	4.982E-01	5.961E-02	-0.279
CO-60	7.428E-02		1.355E-01	2.677E-01	2.757E-02	0.278
ZN-65	-1.841E-01		3.206E-01	4.711E-01	5.280E-02	-0.391
GA-67	5.327E+01	+	1.959E+02	8.142E+01	2.870E+02	0.654
SE-75	-1.989E-01		1.536E-01	2.366E-01	2.218E-02	-0.841
RB-82	9.688E-03		1.705E+00	2.814E+00	3.152E-01	0.003
RB-83	1.161E-01		2.395E-01	4.295E-01	7.777E-02	0.270
KR-85	2.887E+01		2.738E+01	4.934E+01	6.236E+00	0.585
SR-85	1.653E-01		1.567E-01	2.824E-01	3.569E-02	0.585
Y-88	6.252E-02		8.888E-02	2.208E-01	1.864E-02	0.283
NB-93M	1.145E+01		5.677E+00	6.249E+00	2.566E+00	1.832
NB-94	-5.598E-02		1.155E-01	1.748E-01	2.245E-02	-0.320
NB-95	2.449E-01		2.206E-01	4.021E-01	4.431E-02	0.609
NB-95M	1.112E+02		4.986E+01	8.362E+01	7.705E+00	1.329
ZR-95	-1.288E-02		2.670E-01	4.360E-01	5.042E-02	-0.030
RU-103	-4.142E-02		1.574E-01	2.625E-01	4.474E-02	-0.158
RU-106	-1.283E-01		1.123E+00	1.693E+00	2.478E-01	-0.076
AG-108M	3.589E-02		1.172E-01	2.015E-01	2.072E-02	0.178
CD-109	2.074E+00		2.324E+00	3.604E+00	4.230E-01	0.575
AG-110M	1.508E-01		1.321E-01	2.422E-01	2.271E-02	0.623
SN-113	-2.460E-01		1.559E-01	2.230E-01	2.943E-02	-1.103
TE123M	-6.768E-02		9.321E-02	1.515E-01	1.314E-02	-0.447

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
SB-124	-4.917E-02		2.205E-01	2.485E-01	2.733E-02	-0.198
I-125	2.467E-01		1.912E+00	3.133E+00	3.331E-01	0.079
SB-125	5.573E-01		3.121E-01	5.583E-01	7.388E-02	0.998
SB-126	-3.815E-03		8.113E-01	1.338E+00	1.370E-01	-0.003
SN-126	2.441E-01		2.262E-01	3.530E-01	3.559E-02	0.691
SB-127	-2.619E+00		2.689E+01	4.944E+01	4.767E+00	-0.053
I-129	2.960E-02		1.901E-01	3.273E-01	4.337E-02	0.090
I-131	-7.512E-02		9.597E-01	1.445E+00	1.748E-01	-0.052
TE-132	3.636E+00		2.226E+01	3.384E+01	3.102E+00	0.107
BA-133	3.964E-01		1.730E-01	3.106E-01	4.807E-02	1.276
CS-134	1.949E-01		1.467E-01	2.498E-01	2.738E-02	0.780
CS-135	1.982E-01		5.129E-01	8.819E-01	8.224E-02	0.225
CS-136	7.081E-02		5.455E-01	1.043E+00	1.278E-01	0.068
LA-138	1.304E-01		1.487E-01	3.352E-01	3.077E-02	0.389
CE-139	6.844E-02		9.779E-02	1.695E-01	1.449E-02	0.404
BA-140	-4.344E-02		1.528E+00	2.608E+00	8.944E-01	-0.017
LA-140	1.764E-01		4.002E-01	8.324E-01	7.516E-02	0.212
CE-141	3.797E-02		2.358E-01	3.999E-01	9.232E-02	0.095
CE-144	3.338E-01		6.878E-01	1.065E+00	9.636E-02	0.314
PM-144	-6.833E-03		1.120E-01	2.051E-01	2.018E-02	-0.033
PM-145	3.358E-02		4.277E-01	6.562E-01	4.286E-01	0.051
PM-146	-2.651E-02		2.459E-01	3.688E-01	4.827E-02	-0.072
ND-147	-2.261E+00		3.621E+00	5.785E+00	7.182E-01	-0.391
EU-152	-1.223E-01		8.431E-01	1.564E+00	1.777E-01	-0.078
GD-153	-9.410E-03		3.172E-01	4.787E-01	4.623E-02	-0.020
EU-154	-1.019E-01		3.155E-01	5.724E-01	5.518E-02	-0.178
EU-155	5.760E-01		2.937E-01	4.347E-01	4.326E-02	1.325
EU-156	9.530E-01		3.267E+00	5.672E+00	1.374E+00	0.168
HO-166M	-9.031E-02		1.794E-01	3.159E-01	3.188E-02	-0.286
HF-172	1.493E-01		6.128E-01	9.376E-01	8.584E-02	0.159
LU-172	-2.992E-01		2.188E+00	4.119E+00	4.739E-01	-0.073
LU-173	5.217E-01		4.133E-01	7.373E-01	6.876E-02	0.708
HF-175	-5.553E-02		1.537E-01	2.232E-01	2.542E-02	-0.249
LU-176	-4.679E-02		8.544E-02	1.390E-01	1.417E-02	-0.337
TA-182	1.164E+00	+	8.589E-01	1.273E+00	1.415E-01	0.914
IR-192	1.425E-01		2.820E-01	4.183E-01	5.449E-02	0.341
HG-203	-1.087E-01		1.500E-01	2.412E-01	2.304E-02	-0.451
BI-207	-9.481E-02		1.030E-01	1.578E-01	1.854E-02	-0.601
TL-208	4.479E-01		3.689E-01	6.886E-01	7.891E-02	0.651
BI-210M	-1.540E-01		1.689E-01	2.683E-01	2.499E-02	-0.574
PB-211	-5.015E-01		3.030E+00	5.080E+00	6.643E-01	-0.099
PB-212	1.047E+00		2.418E-01	4.307E-01	3.976E-02	2.431
RN-219	2.912E-02		1.323E+00	2.255E+00	2.946E-01	0.013
RA-223	-8.796E-01		2.064E+00	3.389E+00	3.643E-01	-0.260
RA-225	-4.079E-01		9.313E-01	1.387E+00	1.306E-01	-0.294
TH-227	2.108E+00		8.152E-01	1.378E+00	1.270E-01	1.530
TH-230	8.770E+00		2.629E+01	3.215E+01	2.560E+00	0.273
PA-231	1.358E+00		3.872E+00	6.007E+00	6.045E-01	0.226

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/gram)	K.L. Ided	Act error	MDA (pCi/gram)	MDA error	Act/MDA
TH-231	-7.547E-01		9.554E-01	1.569E+00	2.613E-01	-0.481
PA-233	3.936E-02		4.022E-01	6.850E-01	1.588E-01	0.057
PA-234	9.426E-02		3.501E-01	5.350E-01	4.860E-02	0.176
PA-234M	5.518E+00		1.209E+01	2.360E+01	2.967E+00	0.234
U-235	4.527E-02		6.185E-01	1.046E+00	1.847E-01	0.043
NP-237	1.398E+00		7.132E-01	1.056E+00	1.051E-01	1.325
AM-241	2.839E-01		2.141E-01	3.410E-01	2.487E-02	0.832
AM-243	7.175E-01		1.486E-01	2.511E-01	2.168E-02	2.857
CM-243	-2.606E-02		5.753E-01	9.682E-01	9.028E-02	-0.027

Total number of lines in spectrum	40	
Number of unidentified lines	18	
Number of lines tentatively identified by NID	22	55.00%

Nuclide Type : NATURAL

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.614E+01	1.614E+01	0.358E+01	22.16	
PB-210	22.26Y	1.00	2.979E+00	2.986E+00	2.032E+00	68.06	
BI-212	1.41E+10Y	1.00	1.122E+00	1.122E+00	0.807E+00	71.96	
BI-214	1602.00Y	1.00	2.638E+00	2.638E+00	0.522E+00	19.79	
PB-214	1602.00Y	1.00	2.406E+00	2.406E+00	0.480E+00	19.93	
RA-224	1.41E+10Y	1.00	1.805E+01	1.805E+01	0.555E+01	30.74	
RA-226	1602.00Y	1.00	3.974E+00	3.975E+00	7.937E+00	199.69	
AC-228	1.41E+10Y	1.00	1.410E+00	1.410E+00	0.516E+00	36.59	
TH-234	4.47E+09Y	1.00	2.695E+00	2.695E+00	2.662E+00	98.79	
			---------	---------			
	Total Activity :		5.142E+01	5.143E+01			

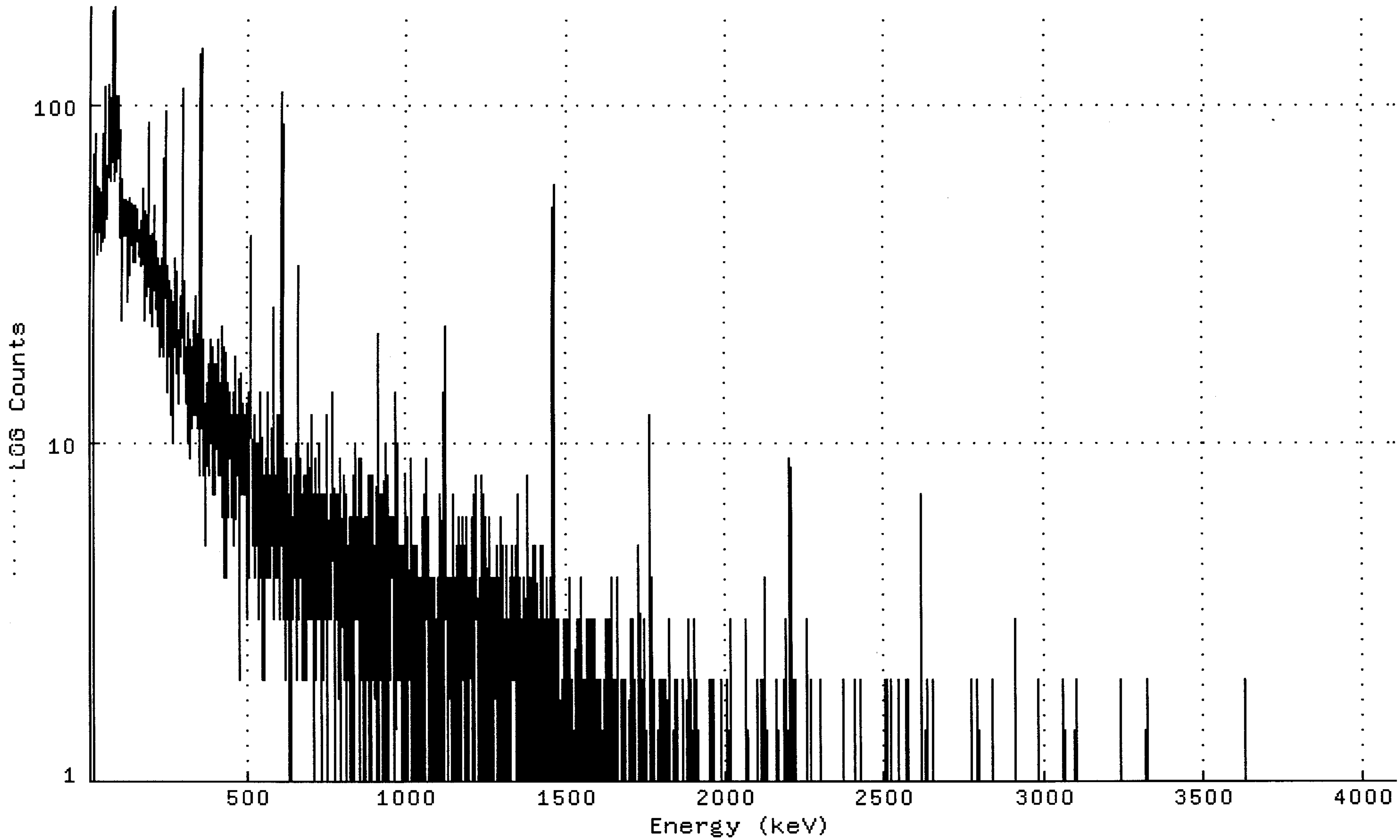
Nuclide Type : FISSION

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/gram	Wtd Mean Decay Corr pCi/gram	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.17Y	1.00	3.004E-01	3.009E-01	1.547E-01	51.41	
			---------	---------			
	Total Activity :		3.004E-01	3.009E-01			

Grand Total Activity : 5.172E+01 5.173E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Spectrum : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116316_GE4_GAS1102_176272.CNF;1
Title :
Sample Title: JMBKGD-NE-31-120128
Start Time: 22-FEB-2012 14:26 Sample Time: 28-JAN-2012 00:00 Energy Offset: 6.91748E-01
Real Time : 0 01:00:01.26 Sample ID : 1201163-16 Energy Slope : 9.99279E-01
Live Time : 0 01:00:00.00 Sample Type: SOLID Energy Quad : 0.00000E+00



0347

Channel Contents for DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_120116316_GE4_GAS1102_1762

Channel

1:	0	0	0	0	0	0	0	0
9:	0	0	0	0	0	1	62	82
17:	69	61	66	64	48	36	49	44
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57:	64	68	61	68	85	83	114	95
65:	60	59	62	75	71	78	67	78
73:	93	156	188	188	195	90	65	73
81:	59	66	90	98	69	94	105	82
89:	77	69	76	93	106	66	60	40
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273:	19	32	21	16	25	23	23	20
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297:	23	18	23	16	16	30	20	16
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353:	59	13	11	19	15	11	19	11
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393:	7	7	9	10	17	16	9	10
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457:	8	7	5	7	9	18	17	11
465:	10	12	9	9	8	11	12	6
473:	9	2	9	10	15	16	7	12
481:	7	8	8	13	11	11	8	8
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553:	8	8	6	7	7	9	6	4
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585:	3	7	5	8	8	4	5	7
593:	8	12	9	8	4	5	8	7
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609:	108	71	8	8	11	3	8	2
617:	9	2	7	5	4	6	5	3
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633:	7	0	9	6	7	3	4	6
641:	5	6	5	4	3	8	8	5
649:	6	8	4	7	2	2	6	10
657:	6	4	3	11	33	23	9	5
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673:	6	2	3	2	4	5	6	2
681:	8	2	8	5	5	7	5	4
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705:	8	4	7	1	4	5	7	6
713:	3	5	2	9	4	3	7	6
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729:	10	2	7	1	2	7	6	6
737:	2	4	7	4	2	6	3	4
745:	3	7	5	9	8	1	2	12
753:	7	4	5	4	3	3	5	7
761:	5	3	7	5	4	5	13	12
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785:	7	4	3	2	3	1	4	6
793:	3	2	9	4	3	3	4	3
801:	4	2	6	4	6	8	8	3
809:	4	1	3	7	5	4	3	2
817:	5	2	4	4	1	4	3	1
825:	6	5	4	4	4	1	6	5
833:	1	6	5	4	8	6	4	10
841:	4	3	5	4	3	6	3	5
849:	5	6	1	5	4	5	9	3
857:	2	3	5	4	9	4	2	5
865:	1	4	5	2	1	2	3	2
873:	6	4	5	2	5	6	5	0
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889:	5	1	8	8	3	5	7	5
897:	2	3	3	3	3	5	3	1
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929:	2	4	1	2	6	10	6	3
937:	1	4	2	1	5	8	7	5
945:	6	4	3	3	2	4	6	6
953:	5	4	4	5	6	4	3	3
961:	6	1	1	2	5	6	4	14
969:	9	5	2	10	2	4	4	4
977:	2	3	4	3	5	3	2	3
985:	5	1	2	3	4	4	5	5
993:	1	2	3	4	8	1	4	6
1001:	5	1	2	5	3	3	3	2
1009:	2	4	2	9	4	2	3	2
1017:	1	3	2	1	5	2	1	2
1025:	0	3	3	5	2	4	3	5
1033:	4	0	3	2	2	2	1	4
1041:	4	2	1	4	1	3	3	1
1049:	4	5	4	5	6	3	3	0
1057:	6	5	7	5	4	3	3	5
1065:	9	1	6	3	4	1	3	2
1073:	3	3	4	1	2	2	3	1
1081:	4	3	1	1	0	4	3	2
1089:	1	3	1	2	1	3	1	1
1097:	4	1	4	2	0	2	3	5
1105:	3	1	7	5	3	3	5	0
1113:	0	2	5	3	1	3	9	22
1121:	22	5	3	4	4	3	4	3
1129:	3	3	0	3	3	3	4	3
1137:	2	3	3	4	3	2	1	0
1145:	7	5	3	3	2	2	2	4
1153:	1	1	4	2	0	5	2	0
1161:	2	2	6	1	4	2	1	2
1169:	3	4	5	1	4	5	5	2
1177:	6	5	5	0	5	5	3	2
1185:	1	3	1	2	6	2	5	3
1193:	3	4	3	1	1	4	3	3
1201:	3	4	4	3	4	3	6	2
1209:	1	7	2	1	1	2	3	3
1217:	5	8	4	3	4	3	3	3
1225:	3	1	1	2	4	3	1	2
1233:	3	0	2	5	7	8	7	7
1241:	3	2	2	1	4	3	5	3
1249:	6	4	0	4	2	0	3	0
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1265:	2	3	1	2	2	4	1	1
1273:	1	1	2	2	4	2	2	3
1281:	3	1	5	0	1	5	2	4
1289:	3	1	3	1	1	4	4	6
1297:	4	1	3	1	5	5	2	1
1305:	1	1	1	1	1	1	3	0
1313:	4	3	5	1	3	1	3	3
1321:	3	2	2	4	1	3	0	4
1329:	3	2	2	5	2	2	2	2
1337:	4	3	2	3	2	2	1	5
1345:	3	3	2	2	7	0	4	5
1353:	2	4	0	1	1	0	4	2
1361:	2	3	3	2	1	2	4	1
1369:	4	3	1	1	2	1	2	2
1377:	6	8	3	0	1	1	2	1
1385:	1	4	2	3	3	0	2	1

1393:	1	4	2	0	3	3	2	5
1401:	2	2	4	1	1	5	3	2
1409:	2	0	2	1	1	3	0	1
1417:	1	0	2	0	5	0	4	1
1425:	3	3	5	0	0	0	2	0
1433:	1	1	3	1	2	1	4	1
1441:	1	2	1	0	0	3	2	2
1449:	2	1	0	4	3	2	2	1
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1465:	1	1	1	1	3	0	1	1
1473:	1	1	1	0	0	3	0	0
1481:	0	1	1	1	1	1	0	2
1489:	2	2	0	0	1	3	2	1
1497:	2	3	3	1	3	0	3	1
1505:	0	3	0	1	3	1	4	1
1513:	1	3	0	0	0	0	2	2
1521:	1	0	1	1	1	1	0	1
1529:	0	1	1	2	3	0	2	1
1537:	1	0	3	3	2	1	1	0
1545:	2	4	3	0	2	2	0	1
1553:	1	0	2	1	1	2	2	0
1561:	2	2	0	1	3	2	2	0
1569:	1	1	1	0	3	1	3	0
1577:	0	1	1	1	3	1	0	0
1585:	0	0	3	3	1	0	1	2
1593:	2	0	2	2	0	2	0	1
1601:	2	1	0	0	0	0	1	2
1609:	0	0	0	1	1	1	1	0
1617:	2	0	0	1	2	0	1	1
1625:	1	3	0	0	3	2	1	1
1633:	0	0	2	0	3	3	3	1
1641:	0	0	0	4	0	1	1	1
1649:	0	2	1	0	0	2	0	0
1657:	0	1	1	4	3	1	3	1
1665:	0	1	1	0	0	1	1	2
1673:	0	1	1	0	0	0	2	0
1681:	1	2	2	0	1	0	1	0
1689:	0	0	0	1	0	1	1	1
1697:	0	1	1	0	3	0	0	0
1705:	1	2	0	0	1	1	0	3
1713:	0	1	0	0	2	1	1	1
1721:	1	1	1	1	1	1	0	1
1729:	3	5	2	1	2	1	0	0
1737:	1	0	2	1	1	1	2	1
1745:	2	1	3	2	0	0	0	0
1753:	0	0	0	1	0	1	0	1
1761:	1	0	4	12	7	8	2	0
1769:	1	1	0	0	2	1	0	1
1777:	1	0	0	0	1	0	0	0
1785:	0	1	1	0	0	1	2	0
1793:	1	0	1	2	1	1	2	0
1801:	0	1	0	0	0	2	0	0
1809:	2	0	1	1	0	0	0	0
1817:	1	0	1	0	3	0	0	2
1825:	0	1	0	0	0	0	0	0
1833:	0	1	0	1	1	0	2	1
1841:	0	1	0	0	1	0	2	2
1849:	2	0	1	1	0	1	0	1
1857:	1	0	0	1	0	0	0	1
1865:	0	0	2	0	1	0	1	1

1873:	0	0	0	1	0	1	0	1
1881:	3	1	2	0	0	1	0	1
1889:	0	1	0	2	1	1	1	0
1897:	0	0	0	3	1	0	0	0
1905:	2	0	2	1	0	2	1	1
1913:	1	1	0	1	0	1	1	1
1921:	1	0	0	1	1	0	1	0
1929:	0	1	0	1	0	1	0	1
1937:	1	0	0	0	0	0	0	0
1945:	1	0	0	0	2	1	0	0
1953:	0	2	0	1	0	2	1	0
1961:	2	1	0	0	1	1	0	0
1969:	0	1	1	1	0	1	0	1
1977:	0	1	1	1	0	1	0	0
1985:	2	1	1	0	0	0	0	1
1993:	1	1	0	0	0	0	0	0
2001:	0	0	0	0	1	2	1	0
2009:	0	1	0	1	1	1	3	1
2017:	0	0	0	0	0	1	0	0
2025:	1	1	1	1	0	0	0	0
2033:	0	0	0	0	0	0	0	1
2041:	0	0	0	0	0	0	0	1
2049:	0	0	0	0	0	1	0	1
2057:	0	1	0	0	0	1	0	3
2065:	0	2	0	0	0	0	0	0
2073:	0	0	0	0	0	1	1	0
2081:	0	0	0	0	1	1	0	0
2089:	0	0	0	1	1	1	1	0
2097:	1	1	2	2	1	0	1	1
2105:	0	1	0	0	0	2	1	2
2113:	0	0	0	2	0	2	2	0
2121:	0	0	4	2	0	2	0	1
2129:	0	0	0	0	0	0	1	1
2137:	0	0	0	0	0	1	0	0
2145:	0	1	1	0	0	0	0	0
2153:	0	0	1	0	0	0	0	0
2161:	0	2	0	0	0	0	1	1
2169:	0	1	1	0	0	0	1	1
2177:	0	0	0	0	0	2	0	1
2185:	0	1	0	0	0	0	3	1
2193:	0	0	0	0	1	0	2	1
2201:	0	0	1	9	8	5	1	2
2209:	0	1	2	0	1	0	1	0
2217:	0	2	0	1	0	0	1	0
2225:	1	0	1	0	0	0	0	0
2233:	0	1	0	0	1	0	0	0
2241:	0	0	0	0	0	0	0	0
2249:	0	0	0	0	0	1	3	1
2257:	0	1	1	1	0	0	1	0
2265:	0	2	0	0	0	1	1	0
2273:	1	1	0	0	0	0	0	0
2281:	0	0	0	0	0	0	0	0
2289:	0	0	0	0	0	0	0	0
2297:	0	2	2	1	0	0	0	0
2305:	0	1	0	0	0	1	1	0
2313:	0	0	0	0	1	0	0	1
2321:	1	0	0	0	0	0	0	1
2329:	1	0	1	1	0	0	0	0
2337:	1	0	0	0	0	0	0	1
2345:	1	0	0	0	0	0	0	1

2353:	0	0	1	1	1	1	1	1
2361:	0	0	0	0	0	0	1	0
2369:	2	1	0	0	0	0	0	1
2377:	0	0	0	0	1	0	0	0
2385:	0	0	0	0	0	0	0	0
2393:	0	1	0	0	0	0	0	1
2401:	0	0	0	0	1	2	0	0
2409:	1	0	0	1	0	0	1	0
2417:	0	0	0	0	1	0	2	0
2425:	0	0	0	0	0	0	0	0
2433:	0	0	0	0	0	1	0	0
2441:	0	1	0	1	0	0	0	0
2449:	0	0	0	0	0	0	0	0
2457:	0	0	0	0	1	0	0	1
2465:	0	0	0	0	1	0	0	0
2473:	0	0	0	0	0	0	0	0
2481:	0	0	0	0	0	0	0	0
2489:	0	0	1	1	0	0	0	0
2497:	0	0	0	0	0	2	1	1
2505:	2	0	0	0	0	0	0	0
2513:	0	0	0	0	1	0	2	2
2521:	0	0	1	0	0	0	0	0
2529:	1	0	0	0	1	0	0	1
2537:	0	0	0	0	0	2	1	0
2545:	0	0	1	0	0	0	0	1
2553:	0	1	0	1	1	1	0	0
2561:	0	0	0	1	0	0	0	2
2569:	0	0	0	0	2	0	0	0
2577:	0	0	0	0	0	0	0	0
2585:	0	0	0	0	0	0	0	0
2593:	0	0	0	0	0	0	1	0
2601:	0	0	0	0	1	1	0	0
2609:	0	1	0	0	0	2	7	7
2617:	1	1	0	0	1	0	1	0
2625:	0	0	0	0	0	0	2	0
2633:	0	1	0	0	0	0	0	0
2641:	0	0	0	0	0	0	0	0
2649:	1	0	0	0	2	1	0	0
2657:	0	0	0	0	0	0	0	0
2665:	0	1	1	0	0	0	1	0
2673:	0	1	1	0	0	0	0	1
2681:	1	0	0	1	0	0	0	0
2689:	1	0	0	0	0	0	0	1
2697:	0	1	0	0	0	0	0	0
2705:	1	0	0	1	0	1	0	0
2713:	0	0	0	0	0	1	0	0
2721:	0	1	0	0	0	0	0	0
2729:	0	0	0	1	1	0	0	0
2737:	0	0	1	0	0	0	0	0
2745:	0	0	0	1	0	0	0	0
2753:	0	0	0	0	1	0	0	0
2761:	0	0	0	0	0	0	0	0
2769:	0	0	2	0	0	0	0	1
2777:	0	0	0	0	0	0	1	1
2785:	0	0	0	0	1	1	2	1
2793:	1	0	1	0	0	1	0	0
2801:	0	0	0	0	0	0	0	0
2809:	0	0	0	0	1	0	0	0
2817:	0	0	0	0	0	1	0	1
2825:	1	1	0	0	0	0	1	0

2833:	0	0	1	2	1	0	0	0
2841:	1	0	0	1	0	1	0	1
2849:	0	0	0	0	0	0	0	1
2857:	0	0	0	0	0	0	0	0
2865:	1	0	0	0	0	0	0	0
2873:	0	0	0	0	0	0	0	0
2881:	0	0	0	0	0	0	1	0
2889:	0	0	1	0	0	0	1	0
2897:	0	0	1	0	0	0	0	0
2905:	0	0	0	3	0	1	0	0
2913:	0	0	0	0	0	0	0	0
2921:	0	0	0	0	1	0	0	0
2929:	0	0	0	0	0	0	0	0
2937:	1	0	0	0	0	0	0	0
2945:	0	0	1	1	0	0	1	0
2953:	0	0	0	1	0	0	1	0
2961:	0	0	0	1	0	0	0	0
2969:	0	1	0	0	0	0	0	0
2977:	0	0	0	0	1	2	1	1
2985:	0	0	0	0	0	1	0	1
2993:	1	0	0	0	0	0	1	0
3001:	0	0	0	0	0	0	0	0
3009:	0	0	0	1	0	1	0	1
3017:	0	0	0	0	0	0	0	0
3025:	0	0	0	0	0	0	0	0
3033:	0	0	0	0	0	1	0	0
3041:	0	0	0	0	0	0	0	0
3049:	0	0	0	0	1	1	0	0
3057:	0	0	0	0	2	0	0	0
3065:	0	0	0	0	1	0	0	0
3073:	0	0	0	0	0	0	1	0
3081:	0	1	0	0	0	0	0	0
3089:	0	1	0	0	1	0	0	0
3097:	0	2	0	0	0	0	0	0
3105:	0	0	0	0	0	0	1	0
3113:	0	0	0	0	0	0	0	0
3121:	0	0	0	0	0	0	0	0
3129:	0	1	0	0	0	1	0	1
3137:	0	0	0	0	0	0	1	0
3145:	0	0	0	0	0	0	0	1
3153:	0	0	0	0	0	0	0	0
3161:	0	0	0	0	0	0	0	0
3169:	0	0	0	1	1	0	0	0
3177:	0	0	1	0	1	1	0	1
3185:	0	0	0	0	0	0	0	0
3193:	0	0	0	0	0	0	0	0
3201:	0	0	0	0	1	1	1	0
3209:	0	0	0	1	0	0	0	0
3217:	0	0	0	0	0	0	0	0
3225:	0	1	0	0	0	0	0	0
3233:	0	0	0	0	1	0	0	2
3241:	0	0	1	0	0	0	0	0
3249:	0	0	0	0	0	0	1	0
3257:	0	0	0	0	1	0	1	0
3265:	0	0	0	0	0	0	0	0
3273:	0	0	0	1	0	1	0	1
3281:	0	0	0	1	0	0	1	0
3289:	0	0	0	0	0	0	0	0
3297:	0	0	0	0	0	0	0	0
3305:	1	1	0	0	0	0	1	0

3313:	0	0	0	0	0	0	0	2
3321:	0	0	0	0	0	0	0	0
3329:	0	0	0	0	0	0	1	0
3337:	0	0	0	0	0	1	0	0
3345:	0	0	1	1	0	0	1	0
3353:	0	0	0	0	0	0	0	0
3361:	0	0	0	0	0	0	0	1
3369:	0	0	1	0	0	0	0	0
3377:	0	0	0	0	1	0	1	0
3385:	0	0	0	0	0	0	0	0
3393:	0	0	0	0	1	0	0	0
3401:	0	1	0	0	0	0	1	0
3409:	0	0	0	0	0	0	0	0
3417:	1	0	0	0	1	0	0	0
3425:	0	0	0	0	0	0	1	0
3433:	0	0	0	0	0	0	0	0
3441:	1	0	0	1	0	1	0	1
3449:	0	1	0	0	0	0	0	1
3457:	0	0	0	0	0	0	0	0
3465:	0	0	0	0	0	0	0	0
3473:	1	0	0	0	0	0	0	0
3481:	0	0	1	0	0	0	0	0
3489:	0	0	0	0	0	0	0	0
3497:	0	0	0	1	0	0	0	0
3505:	0	0	1	0	0	0	0	0
3513:	1	0	0	0	0	0	0	0
3521:	0	0	0	1	0	0	0	1
3529:	1	0	0	0	1	1	0	0
3537:	0	0	0	0	0	0	0	1
3545:	0	0	1	0	0	0	0	1
3553:	0	1	0	0	0	0	0	0
3561:	0	0	0	0	0	0	0	0
3569:	0	0	0	0	0	0	0	0
3577:	0	1	0	0	0	0	0	0
3585:	0	0	0	0	0	0	1	0
3593:	1	0	0	0	0	0	0	0
3601:	0	0	0	0	0	1	0	0
3609:	0	0	0	1	0	0	0	0
3617:	0	0	0	0	0	0	0	1
3625:	0	0	0	0	2	0	1	0
3633:	1	0	0	1	0	0	0	0
3641:	0	0	0	0	0	0	0	0
3649:	0	1	0	0	1	0	0	1
3657:	0	0	0	0	0	0	0	0
3665:	0	0	0	1	0	1	0	0
3673:	0	0	0	0	0	0	0	0
3681:	0	0	0	0	0	0	0	0
3689:	1	0	0	0	0	0	0	0
3697:	0	0	0	0	0	0	0	0
3705:	0	0	1	0	0	0	0	0
3713:	0	0	0	0	0	1	1	0
3721:	0	0	1	0	0	0	0	0
3729:	0	0	0	0	0	0	0	0
3737:	0	0	0	0	0	0	0	0
3745:	0	0	0	0	0	0	1	0
3753:	0	0	1	1	0	0	0	0
3761:	1	0	0	0	0	0	0	0
3769:	0	0	0	0	0	0	0	0
3777:	0	0	1	0	0	0	0	0
3785:	0	0	0	0	1	0	0	0

3793:	0	0	0	0	0	1	0	0
3801:	0	0	0	0	1	0	0	0
3809:	0	0	0	0	0	0	0	0
3817:	0	0	0	0	0	0	0	0
3825:	1	0	0	1	0	0	1	1
3833:	0	0	0	0	0	0	0	0
3841:	0	0	0	0	0	0	0	0
3849:	0	0	0	0	0	0	0	0
3857:	0	0	1	0	0	0	0	0
3865:	1	0	0	0	0	0	0	0
3873:	0	0	0	0	1	0	0	0
3881:	0	0	0	0	0	0	0	0
3889:	0	0	0	0	0	0	0	0
3897:	0	0	0	0	0	0	0	0
3905:	0	0	0	0	0	0	0	0
3913:	0	0	0	0	1	0	0	0
3921:	0	0	0	0	1	0	0	0
3929:	0	0	1	1	1	1	0	0
3937:	0	0	0	0	0	0	0	1
3945:	0	0	0	0	0	0	0	1
3953:	0	1	0	0	0	0	0	0
3961:	1	0	0	0	0	0	1	0
3969:	1	0	0	0	0	0	0	0
3977:	0	0	0	0	0	0	0	0
3985:	0	0	0	0	0	0	0	0
3993:	0	0	0	0	0	0	0	0
4001:	0	0	0	0	0	0	1	0
4009:	0	0	0	0	0	0	0	0
4017:	0	0	0	0	0	0	0	0
4025:	0	1	0	0	0	0	1	0
4033:	0	0	0	0	0	0	0	0
4041:	0	0	0	0	0	0	1	0
4049:	0	0	0	0	0	0	0	0
4057:	0	1	0	0	0	0	1	0
4065:	0	0	0	0	0	0	1	0
4073:	0	0	0	0	0	0	0	0
4081:	0	0	0	0	0	0	0	0
4089:	0	0	0	0	0	0	0	0

QA filename : DKA100:[GAMMA.SCUSR.QA]QCB_GE4.QAF;1

Sample ID : Bkgrnd Check
Sample date : 22-FEB-2012 05:15:01
Elapsed live time: 0 00:15:00.00

Sample quantity : 1.00 EACH
Acquisition date : 22-FEB-2012 05:15:01
Elapsed real time: 0 00:15:00.17

Out-of-range Test: N-SIGMA

Parameter Description [Mean+/-Stdev]	Value	Deviation	Flag
Background Counts [1424+/-47]	1487	1.33	
Background Rate [1.583+/-0.052]	1.652	1.33	

Flags: "*" means the out-of-range test is parameter-dependent

Approved by: ____________________ Approval Date: 2/22/12

QA filename : DKA100:[GAMMA.SCUSR.QA]QCB_GE3.QAF;1

Sample ID : Bkgrnd Check Sample quantity : 1.00 EACH
Sample date : 22-FEB-2012 06:23:43 Acquisition date : 22-FEB-2012 06:23:43
Elapsed live time: 0 00:15:00.00 Elapsed real time: 0 00:15:04.85

Out-of-range Test: N-SIGMA

Parameter Description [Mean+/-Stdev]	Value	Deviation	Flag
Background Counts [2.96E+03+/-4.23E+04]	1.76E+03	-0.03	
*Background Rate [3.3+/-47]	2.0	-0.03	

Flags: "*" means the out-of-range test is parameter-dependent

Approved by: ____________ Approval Date: 2 22 12

QA filename : DKA100:[GAMMA.SCUSR.QA]QCB_GE2.QAF;1

Sample ID : Bkgrnd Check
Sample date : 22-FEB-2012 06:01:29
Elapsed live time: 0 00:15:00.00

Sample quantity : 1.00 EACH
Acquisition date : 22-FEB-2012 06:01:29
Elapsed real time: 0 00:15:00.13

Out-of-range Test: N-SIGMA

Parameter Description [Mean+/-Stdev]	Value	Deviation	Flag
*Background Counts [3039+/-3853]	2203	-0.22	
*Background Rate [33+/-558]	2.4	-0.05	

Flags: "*" means the out-of-range test is parameter-dependent

Approved by: ______ Approval Date: 7/21/12

QA filename : DKA100:[GAMMA.SCUSR.QA]QCB_GE1.QAF;1

Sample ID : Bkgrnd Check
Sample date : 22-FEB-2012 05:37:49
Elapsed live time: 0 00:15:00.00

Sample quantity : 1.00 EACH
Acquisition date : 22-FEB-2012 05:37:49
Elapsed real time: 0 00:15:00.10

Out-of-range Test: N-SIGMA

Parameter Description [Mean+/-Stdev]	Value	Deviation	Flag
Background Counts [1838+/-225]	1890	0.23	
Background Rate [2.05+/-0.24]	2.10	0.23	

Flags: "*" means the out-of-range test is parameter-dependent

Approved by: ______ Approval Date: ___/___/___

QA filename : DKA100:[GAMMA.SCUSR.QA]QCC_GE4_GAS1102.QAF;1

Sample ID : Calib Check Sample quantity : 736. GRAM
Sample date : 1-JAN-2011 00:00:00 Acquisition date : 22-FEB-2012 06:02:25
Elapsed live time: 0 00:15:00.00 Elapsed real time: 0 00:15:15.28

Out-of-range Test: BOUNDARY

Parameter Description	Lower	Upper	Value	Flag
*Peak Centroid 59.54 kev	58	61	59	
*Peak Centroid 661.65 kev	660	663	661	
*Peak Centroid 1173.22 kev	1172	1175	1173	
*Peak Centroid 1332.49 kev	1331	1334	1333	
*Peak Centroid 1836.01 kev	1835	1838	1836	
*Peak FWHM Am-241 59.54 kev	0.5	3.0	2.3	
*Peak FWHM Cs-137 661.65 kev	0.5	3.0	2.1	
*Peak FWHM Co-60 1173.22 kev	0.5	3.0	2.4	
*Peak FWHM Co-60 1332.49 kev	0.5	3.0	2.4	
*Peak FWHM Y-88 1836.01 kev	0.5	3.0	2.8	
*DC Activity Am-241 59.54 kev	180	244	213	
*DC Activity Cs-137 661.65 kev	68	92	82	
*DC Activity Co-60 1173.22 kev	112	152	138	
*DC Activity Co-60 1332.49 kev	112	152	138	
*DC Activity Y-88 1836.01 kev	236	319	279	

Flags: "*" means the out-of-range test is parameter-dependent

Approved by: ______________________ Approval Date: 2-22-12

QA filename : DKA100:[GAMMA.SCUSR.QA]QCC_GE3_GAS1102.QAF;1

Sample ID : Calib Check
Sample date : 1-JAN-2011 00:00:00
Elapsed live time: 0 00:15:00.00

Sample quantity : 736. GRAM
Acquisition date : 22-FEB-2012 05:38:59
Elapsed real time: 0 00:15:43.21

Out-of-range Test: BOUNDARY

Parameter Description	Lower	Upper	Value	Flag
*Peak Centroid 59.54 kev	58	61	60	
*Peak Centroid 661.65 kev	660	663	662	
*Peak Centroid 1173.22 kev	1172	1175	1174	
*Peak Centroid 1332.49 kev	1331	1334	1333	
*Peak Centroid 1836.01 kev	1835	1838	1837	
*Peak FWHM Am-241 59.54 kev	0.5	3.0	1.5	
*Peak FWHM Cs-137 661.65 kev	0.5	3.0	1.7	
*Peak FWHM Co-60 1173.22 kev	0.5	3.0	2.0	
*Peak FWHM Co-60 1332.49 kev	0.5	3.0	2.1	
*Peak FWHM Y-88 1836.01 kev	0.5	3.0	2.5	
*DC Activity Am-241 59.54 kev	180	244	194	
*DC Activity Cs-137 661.65 kev	68	92	79	
*DC Activity Co-60 1173.22 kev	112	152	134	
*DC Activity Co-60 1332.49 kev	112	152	132	
*DC Activity Y-88 1836.01 kev	236	319	275	

Flags: "*" means the out-of-range test is parameter-dependent

Approved by: ______________ Approval Date: 2/24/12

QA filename : DKA100:[GAMMA.SCUSR.QA]QCC_GE2_GAS1102.QAF;1

Sample ID : Calib Check Sample quantity : 736. GRAM
Sample date : 1-JAN-2011 00:00:00 Acquisition date : 22-FEB-2012 05:13:59
Elapsed live time: 0 00:15:00.00 Elapsed real time: 0 00:15:14.17

Out-of-range Test: BOUNDARY

Parameter Description	Lower	Upper	Value	Flag
*Peak Centroid 59.54 kev	58	61	60	
*Peak Centroid 661.65 kev	660	663	662	
*Peak Centroid 1173.22 kev	1172	1175	1173	
*Peak Centroid 1332.49 kev	1331	1334	1332	
*Peak Centroid 1836.01 kev	1835	1838	1836	
*Peak FWHM Am-241 59.54 kev	0.5	3.0	1.6	
*Peak FWHM Cs-137 661.65 kev	0.5	3.0	1.7	
*Peak FWHM Co-60 1173.22 kev	0.5	3.0	2.1	
*Peak FWHM Co-60 1332.49 kev	0.5	3.0	2.2	
*Peak FWHM Y-88 1836.01 kev	0.5	3.0	2.5	
*DC Activity Am-241 59.54 kev	180	244	214	
*DC Activity Cs-137 661.65 kev	68	92	81	
*DC Activity Co-60 1173.22 kev	112	152	135	
*DC Activity Co-60 1332.49 kev	112	152	134	
*DC Activity Y-88 1836.01 kev	236	319	276	

Flags: "*" means the out-of-range test is parameter-dependent

Approved by: ______________ Approval Date: 2/22/12

QA filename : DKA100:[GAMMA.SCUSR.QA]QCC_GE1_GAS1102.QAF;1

Sample ID : Calib Check Sample quantity : 736. GRAM
Sample date : 1-JAN-2011 00:00:00 Acquisition date : 22-FEB-2012 06:41:14
Elapsed live time: 0 00:15:00.00 Elapsed real time: 0 00:15:18.89

Out-of-range Test: BOUNDARY

Parameter Description	Lower	Upper	Value	Flag
*Peak Centroid 59.54 kev	58	61	59	
*Peak Centroid 661.65 kev	660	663	662	
*Peak Centroid 1173.22 kev	1172	1175	1174	
*Peak Centroid 1332.49 kev	1331	1334	1333	
*Peak Centroid 1836.01 kev	1835	1838	1837	
*Peak FWHM Am-241 59.54 kev	0.5	3.0	1.7	
*Peak FWHM Cs-137 661.65 kev	0.5	3.0	1.7	
*Peak FWHM Co-60 1173.22 kev	0.5	3.0	2.0	
*Peak FWHM Co-60 1332.49 kev	0.5	3.0	2.1	
*Peak FWHM Y-88 1836.01 kev	0.5	3.0	2.5	
*DC Activity Am-241 59.54 kev	180	244	178 ok	Below
*DC Activity Cs-137 661.65 kev	68	92	79	
*DC Activity Co-60 1173.22 kev	112	152	130	
*DC Activity Co-60 1332.49 kev	112	152	129	
*DC Activity Y-88 1836.01 kev	236	319	288	

Flags: "*" means the out-of-range test is parameter-dependent

Approved by: ______________ Approval Date: 2/22/12

February 10, 2012

Ms. Kristie Warr
Weston Solutions, Inc.
5599 San Felipe, Ste. 700
Houston, TX 77056

Re:	ALS Workorder:	12-01-354
	Project Name:	Johnny M ORS
	Project Number:	TO 0035111101-120130-0002

Dear Ms. Warr:

Thirteen soil samples were received from Weston Solutions, Inc. on January 21, 2012. The samples were scheduled for the following analysis:

Metals pages 1-195

Contrary to the samples received previously, these contained notable moisture. Thus the samples were aliquotted as-received and corrected for %moisture.

The results for this analysis are contained in the enclosed report.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental
Lance Steere
Senior Project Manager

LRS/djf
Enclosure (s): Report

ALS is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

Accreditation Body	License or Certification Number
Washington	C1280
Utah	CO00078
Arizona	AZ0742
Alaska	UST-086
Alaska	CO00078
Florida	E87914
Missouri	175
North Dakota	R-057
New Jersey	CO003
Nevada	CO000782008A
California	06251CA
Kansas	E-10381
Maryland	285
Pennsylvania	68-03116
Texas	T104704241-09-1
Colorado	CO00078
Connecticut	PH-0232
Idaho	CO00078
Tennessee	2976
Kentucky	90137
L-A-B (DoD ELAP/ISO 17025)	L2257

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1201354
Client Name: Weston Solutions, Inc.
Client Project Name: Johnny M ORS
Client Project Number: TO0035111101-120130-0002
Client PO Number: 0077655

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
JM-54-31-120128	1201354-1		SOIL	28-Jan-12	17:12
JM-55-31-120128	1201354-2		SOIL	28-Jan-12	17:10
JM-65-31-120128	1201354-3		SOIL	28-Jan-12	17:02
JM-66-31-120128	1201354-4		SOIL	28-Jan-12	17:05
JM-70-31-120128	1201354-5		SOIL	28-Jan-12	17:00
JM-70-32-120128	1201354-6		SOIL	28-Jan-12	17:00
JM-73-31-120128	1201354-7		SOIL	28-Jan-12	16:57
JM-77-31-120128	1201354-8		SOIL	28-Jan-12	16:55
JM-82-31-120128	1201354-9		SOIL	28-Jan-12	16:45
JM-84-31-120128	1201354-10		SOIL	28-Jan-12	16:39
JM-88-31-120128	1201354-11		SOIL	28-Jan-12	16:34
JMBKGD-NE-31-120128	1201354-12		SOIL	28-Jan-12	9:41
JMBKGD-NW-31-120128	1201354-13		SOIL	28-Jan-12	9:10

1201354

USEPA

CHAIN OF CUSTODY RECORD

No: TO0035111101-120130-0002

DateShipped:
CarrierName:
AirbillNo:

Johnny M ORS
Contact Name: Kristie Warr
Contact Phone: 713-985-6600

Cooler #: 1
Lab: ALS Laboratory Group
Lab Phone: 970-490-1511

Lab #	Sample #	Analyses	Matrix	Collected	Sample Time	Container	Preservative	MS/ MSD	Samp_Concentration
1	JM-54-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:12	Jar	Ice	N	251,115 cpm
2	JM-55-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:10	Jar	Ice	N	156,052 cpm
3	JM-65-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:02	Jar	Ice	N	342,018 cpm
4	JM-66-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:05	Jar	Ice	N	269,876 cpm
5	JM-70-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:00	Jar	Ice	N	381,092 cpm
6	JM-70-32-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:00	Jar	Ice	N	381,092 cpm
7	JM-73-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	16:57	Jar	Ice	N	209,993 cpm
8	JM-77-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	16:55	Jar	Ice	N	282,248 cpm
9	JM-82-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	16:45	Jar	Ice	N	228,461 cpm
10	JM-84-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	16:38	Jar	Ice	N	117,322 cpm
11	JM-88-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	16:34	Jar	Ice	N	265,129 cpm
12	JMBKGD-NE-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	09:41	Jar	Ice	N	9,938 cpm
13	JMBKGD-NW-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	09:10	Jar	Ice	N	13,502 cpm

Special Instructions: Standard TAT, SW846 6010/6020
SW846 7470/7471

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
13/ samples	[signature]	1/30/12	Emily McGahay	1/31/12	0925						

CONDITION OF SAMPLE UPON RECEIPT FORM

Client: Weston Solutions   Workorder No: 1201354

Project Manager: LRS   Initials: SMG   Date: 1/31/12

1. Does this project require any **special handling** in addition to standard Paragon procedures?		YES	NO
2. Are custody **seals** on **shipping containers** intact?	NONE	YES	NO
3. Are Custody seals on **sample containers** intact?	NONE	YES	NO
4. Is there a **COC (Chain-of-Custody) present** or other representative documents?		YES	NO
5. Are the **COC and bottle labels complete and legible**?		YES	NO
6. Is the **COC in agreement** with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		YES	NO
7. Were **airbills / shipping documents** present and/or removable?	DROP OFF	YES	NO
8. Are all **aqueous samples requiring preservation preserved correctly? (excluding volatiles)**	N/A	YES	NO
9. Are all aqueous **non-preserved samples pH 4-9**?	N/A	YES	NO
10. Is there **sufficient sample** for the requested analyses?		YES	NO
11. Were all samples placed in the **proper containers** for the requested analyses?		YES	NO
12. Are all samples within **holding times** for the requested analyses?		YES	NO
13. Were all sample containers received **intact**? (not broken or leaking, etc.)		YES	NO
14. Are all samples requiring **no** headspace (**VOC, GRO, RSK/MEE, Rx CN/S, radon**) headspace free? **Size of bubble**: ____ < green pea ____ > green pea	N/A	YES	NO
15. Do perchlorate LCMS-MS samples **have** headspace? (at least 1/3 of container required)	N/A	YES	NO
16. Were samples checked for and free from the presence of **residual chlorine?** (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	N/A	YES	NO
17. Were the samples **shipped on ice**?		YES	NO
18. Were cooler temperatures measured at 0.1-6.0°C? **IR gun used*: #2 #4**	RAD ONLY	YES	NO

Cooler #:	1							
Temperature (°C):	6°							
No. of custody seals on cooler:	2							
DOT Survey/ Acceptance Information — External µR/hr reading:	22							
Background µR/hr reading:	13							

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES / NO / NA (If no, see Form 008.)

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

If applicable, was the client contacted? **YES / NO / NA** Contact: ____________ Date/Time: ____________

Project Manager Signature / Date: [signature] 2/1/12

*IR Gun #2: Oakton, SN 29922500201-0066   *IR Gun #4: Oakton, SN 2372220101-0002

Form 201r22.xls (6/1/09)

From: (903) 348-3917
Patrick Buster
Weston Solutions
825 E Santa Fe. Ave

Grants, NM 87020

Origin ID: GUPA

FedEx Express

E

J12101112190225

Ship Date: 30JAN12
ActWgt: 40.0 LB
CAD: 2557564/INET3250

Delivery Address Bar Code

SHIP TO: (970) 490-1511 BILL SENDER

Lance Steere
ALS Laboratory Group
225 Commerce Drive

Fort Collins, CO 80524

Ref # 20406.012.035.0694.01
Invoice # for approval
PO # expense reports
Dept #

2\2

TUE - 31 JAN A2
PRIORITY OVERNIGHT

TRK# 0201 **7931 6811 2930**

80524
CO-US
DEN

XH FTCA

512G1/9F59/A278

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1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

ALS Environmental
Ft. Collins, Colorado

Invoice: 50626

Invoice Date: 2/10/2012
Terms: Net 30
Due Date: 3/11/2012
Project Manager: Lance R. Steere

BILL TO	CLIENT REFERENCE INFORMATION
Weston Solutions, Inc. 5599 San Felipe, Ste. 700 Houston, TX 77056 **Attn: Kristie Warr**	**Project ID:** TO0035111101-120130-0002 **Project Name:** Johnny M ORS **PO:** 0077655 **Cost Code:** NA

ItemCode:	Description:	Matrix:	Qty:	ItemPrice:	ExtPrice:
SDG 1201354					
Group 1					
	ICP Metals--TAL suite + Mo, Sn	SOIL	13	$85.00	$1,105.00
	ICPMS Metals--U	SOIL	13	$15.00	$195.00
				Group Total	**$1,300.00**
				SDG Total:	**$1,300.00**

Comments: NA

Client agrees to pay delinquency charges on past due accounts at a rate of 1 1/2% per month (18% Annual). Client also agrees to pay collection costs and attorney fees if placed for collection.

Calculated Invoice Total: $1,300.00

REMIT TO: ALS Group USA, Corp

LIMS Version: 6.560

Date Printed: Friday, February 10, 2012

ALS Group USA, Corp
Part of the **ALS Group**
P.O. Box 975444 Dallas, TX 75397
Phone (970) 490-1511 Fax (970) 490-1522 www.alsenviro.com
A Campbell Brothers Limited Company

If you wish to remit via credit card, please call us at (970) 490-1511

ALS Environmental

Metals
Case Narrative

Weston Solutions, Inc.
Johnny M ORS – TO0035111101-120130-002

Work Order Number: 1201354

1. This report consists of 13 soil samples.

2. The samples were received cool and intact by ALS on 1/31/12.

3. The samples were prepared and analyzed based on SW-846, 3rd Edition procedures.

   For analysis by Trace ICP and ICP-MS, the samples were digested following method 3050B and SOP 806 Rev. 15.

   For analysis by Cold Vapor AA (CVAA), the samples were digested following method 7471A and SOP 812 Rev. 15.

4. Analysis by Trace ICP followed method 6010B and SOP 834 Rev. 8.

   Analysis by ICP-MS followed method 6020A and SOP 827 Rev. 8.

   Analysis by CVAA followed method 7471A and SOP 812 Rev. 15.

5. All standards and solutions are NIST traceable and were used within their recommended shelf life.

6. The samples were prepared and analyzed within the established hold times.

All in house quality control procedures were followed, as described below.

7. General quality control procedures.
   - A preparation (method) blank and laboratory control sample were digested and analyzed with the samples in each digestion batch.

- The preparation (method) blank associated with each digestion batch was below the practical quantitation limit for the requested analytes, with the exception of uranium in the method blank associated with the ICP-MS batch. The associated samples contained more than ten times the concentration of uranium in the method blank, so no further action was taken.
- All laboratory control sample criteria were met.
- All initial and continuing calibration blanks were below the practical quantitation limit for the requested analytes, with the exception of CCB6 for aluminum. The samples bracketed by this CCB contained more than ten times the concentration of aluminum that was detected in the CCB.
- All initial and continuing calibration verifications were within the acceptance criteria for the requested analytes.
- The high standard readbacks associated with Method 6010B were within acceptance criteria.
- The interference check samples associated with Method 6010B were within acceptance criteria.
- The interference check samples associated with Method 6020A were analyzed.

8. Matrix specific quality control procedures.

Sample 1201354-1 was designated as the quality control sample for the Trace ICP and ICP-MS analyses. Sample 1201354-13 was designated as the quality control sample for the mercury analysis.

Similarity of matrix and therefore relevance of the QC results should not be automatically inferred for any sample other than the native sample selected for QC.

- A matrix spike and matrix spike duplicate were digested and analyzed with each batch. All acceptance criteria for accuracy were met, with the following exceptions:

Analyte	Sample ID
Antimony	1201354-1MS & MSD
Barium	1201354-1MS & MSD
Calcium	1201354-1MS & MSD
Vanadium	1201354-1MS & MSD
Zinc	1201354-1MS & MSD

The native sample results are flagged for matrix spike failure and an analytical post spike was performed. The results of the spike were acceptable indicating that the matrix was not significantly affecting quantitation of these analytes.

- Matrix spike recoveries could not be evaluated for the following analytes:

Analyte	Sample ID
Aluminum	1201354-1
Iron	1201354-1
Uranium	1201354-1

  The concentrations of these analytes in the native sample were greater than four times the concentration of matrix spike added during the digestion. When sample concentration is that much greater than the spike added, spike recoveries may not be accurate. The laboratory control sample indicates that the digestion and analysis were in control.

- A sample duplicate and matrix spike duplicate were digested and analyzed with each batch. All acceptance criteria for precision were met, with the following exceptions:

Analyte	Sample ID
Barium	1201354-1D
Potassium	1201354-1D
Selenium	1201354-1D
Sodium	1201354-1D
Zinc	1201354-1D

  The native sample results are flagged for duplicate failure.

- A serial dilution was analyzed with each ICP batch. All acceptance criteria were met, with the following exceptions:

Analyte	Sample ID
Barium	1201354-1L
Potassium	1201354-1L
Zinc	1201354-1L

  The native sample results are flagged for serial dilution failure.

9. Sample 1201354-13 required dilutions to bring iron into the analytical range of the Trace ICP. Accurate quantitation of iron is necessary to correct for spectral interferences on lead, selenium, thallium, and vanadium. The lead, selenium, thallium, and vanadium results were determined from the diluted sample.

   It is a standard practice that samples for ICP-MS are analyzed at a dilution. Samples 1201354-2, -3, -5, -6, -7, -8, -9, and -11 required further dilutions to bring uranium into the analytical range of the ICP-MS.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Jill Latelle

2/8/12

Jill Latelle
Inorganics Primary Data Reviewer

Date

2-8-12

Inorganics Final Data Reviewer

Date

Inorganic Data Reporting Qualifiers

The following qualifiers are used by the laboratory when reporting results of inorganic analyses.

- Result qualifier -- If the analyte was analyzed for but not detected a "U" is entered.
- QC qualifier -- Specified entries and their meanings are as follows:

  E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.

  M - Duplicate injection precision was not met.

  N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.

  Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.

  * - Duplicate analysis (relative percent difference) not within control limits.

  S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Chain of Custody

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1201354
Client Name: Weston Solutions, Inc.
Client Project Name: Johnny M ORS
Client Project Number: TO0035111101-120130-0002
Client PO Number: 0077655

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
JM-54-31-120128	1201354-1		SOIL	28-Jan-12	17:12
JM-55-31-120128	1201354-2		SOIL	28-Jan-12	17:10
JM-65-31-120128	1201354-3		SOIL	28-Jan-12	17:02
JM-66-31-120128	1201354-4		SOIL	28-Jan-12	17:05
JM-70-31-120128	1201354-5		SOIL	28-Jan-12	17:00
JM-70-32-120128	1201354-6		SOIL	28-Jan-12	17:00
JM-73-31-120128	1201354-7		SOIL	28-Jan-12	16:57
JM-77-31-120128	1201354-8		SOIL	28-Jan-12	16:55
JM-82-31-120128	1201354-9		SOIL	28-Jan-12	16:45
JM-84-31-120128	1201354-10		SOIL	28-Jan-12	16:39
JM-88-31-120128	1201354-11		SOIL	28-Jan-12	16:34
JMBKGD-NE-31-120128	1201354-12		SOIL	28-Jan-12	9:41
JMBKGD-NW-31-120128	1201354-13		SOIL	28-Jan-12	9:10

1201354

USEPA

DateShipped:
CarrierName:
AirbillNo:

CHAIN OF CUSTODY RECORD

Johnny M ORS
Contact Name: Kristie Warr
Contact Phone: 713-985-6600

No: TO0035111101-120130-0002

Cooler #: 1
Lab: ALS Laboratory Group
Lab Phone: 970-490-1511

Lab #	Sample #	Analyses	Matrix	Collected	Sample Time	Container	Preservative	MS/ MSD	Samp_Concentration
1	JM-54-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:12	Jar	Ice	N	251,115 cpm
2	JM-55-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:10	Jar	Ice	N	156,052 cpm
3	JM-65-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:02	Jar	Ice	N	342,018 cpm
4	JM-66-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:05	Jar	Ice	N	269,876 cpm
5	JM-70-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:00	Jar	Ice	N	381,092 cpm
6	JM-70-32-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:00	Jar	Ice	N	381,092 cpm
7	JM-73-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	16:57	Jar	Ice	N	209,993 cpm
8	JM-77-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	16:55	Jar	Ice	N	282,248 cpm
9	JM-82-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	16:45	Jar	Ice	N	228,461 cpm
10	JM-84-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	16:38	Jar	Ice	N	117,322 cpm
11	JM-88-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	16:34	Jar	Ice	N	265,129 cpm
12	JMBKGD-NE-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	09:41	Jar	Ice	N	9,938 cpm
13	JMBKGD-NW-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	09:10	Jar	Ice	N	13,502 cpm

Special Instructions: Standard TAT, SW846 6010/6020
SW846 7470/7471

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
13 / samples	[signature]	1/31/12	Emily M Graham	1/31/12	0925						

ALS

CONDITION OF SAMPLE UPON RECEIPT FORM

Client: Weston Solutions Workorder No: 1201354

Project Manager: LRS Initials: SMG Date: 1/31/12

1. Does this project require any **special handling** in addition to standard Paragon procedures?		YES	NO
2. Are custody **seals** on **shipping containers** intact?	NONE	YES	NO
3. Are Custody seals on **sample containers** intact?	NONE	YES	NO
4. Is there a **COC (Chain-of-Custody) present** or other representative documents?		YES	NO
5. Are the **COC and bottle labels complete and legible**?		YES	NO
6. Is the **COC in agreement** with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		YES	NO
7. Were **airbills / shipping documents** present and/or removable?	DROP OFF	YES	NO
8. Are all **aqueous samples requiring preservation preserved correctly? (excluding volatiles)**	N/A	YES	NO
9. Are all aqueous **non-preserved samples pH 4-9**?	N/A	YES	NO
10. Is there **sufficient sample** for the requested analyses?		YES	NO
11. Were all samples placed in the **proper containers** for the requested analyses?		YES	NO
12. Are all samples within **holding times** for the requested analyses?		YES	NO
13. Were all sample containers received **intact**? (not broken or leaking, etc.)		YES	NO
14. Are all samples requiring **no** headspace (**VOC, GRO, RSK/MEE, Rx CN/S, radon**) headspace free? **Size of bubble**: ____ < green pea ____ > green pea	N/A	YES	NO
15. Do perchlorate LCMS-MS samples **have** headspace? (at least 1/3 of container required)	N/A	YES	NO
16. Were samples checked for and free from the presence of **residual chlorine?** (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	N/A	YES	NO
17. Were the samples **shipped on ice**?		YES	NO
18. Were cooler temperatures measured at 0.1-6.0°C? **IR gun used*: #2 #4**	RAD ONLY	YES	NO

Cooler #:	1						
Temperature (°C):	6°						
No. of custody seals on cooler:	2						
External μR/hr reading:	22						
Background μR/hr reading:	13						

DOT Survey/ Acceptance Information

Were external μR/hr readings ≤ two times background and within DOT acceptance criteria? **YES / NO / NA** (If no, see Form 008.)

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

If applicable, was the client contacted? **YES / NO / NA** Contact: ______ Date/Time: ______

Project Manager Signature / Date: 2/1/12

*IR Gun #2: Oakton, SN 29922500201-0066 *IR Gun #4: Oakton, SN 2372220101-0002

Form 201r22.xls (6/1/09)

From: (903) 348-3917
Patrick Buster
Weston Solutions
825 E Santa Fe. Ave

Grants, NM 87020

Origin ID: GUPA

FedEx Express

E

J12101112190225

SHIP TO: (970) 490-1511 BILL SENDER

Lance Steere
ALS Laboratory Group
225 Commerce Drive

Fort Collins, CO 80524

Ship Date: 30JAN12
ActWgt: 40.0 LB
CAD: 2557564/INET3250

Delivery Address Bar Code

Ref # 20406.012.035.0694.01
Invoice # for approval
PO # expense reports
Dept #

22

TUE - 31 JAN A2
PRIORITY OVERNIGHT

TRK# 7931 6811 2930
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Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Sample Results

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-54-31-120128	**Sample Matrix:** SOIL	**Prep Batch:** IP120202-2	**Sample Aliquot:** 1.027 G
Lab ID: 1201354-1	**% Moisture:** 12.5	**QCBatchID:** IP120202-2-1	**Final Volume:** 100 ML
	Date Collected: 28-Jan-12	**Run ID:** IT120202-2A1	**Result Units:** MG/KG
	Date Extracted: 02-Feb-12	**Cleanup:** NONE	**Clean DF:** 1
	Date Analyzed: 02-Feb-12	**Basis:** Dry Weight	
	Prep Method: SW3050 Rev B	**File Name:** 120202A.	

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	6600	22		
7440-36-0	ANTIMONY	1	2.2	2.2	U	N
7440-38-2	ARSENIC	1	6.5	1.1		
7440-39-3	BARIUM	1	330	11		*EN
7440-41-7	BERYLLIUM	1	0.56	0.56	U	
7440-43-9	CADMIUM	1	0.56	0.56	U	
7440-70-2	CALCIUM	1	9600	110		N
7440-47-3	CHROMIUM	1	5	1.1		
7440-48-4	COBALT	1	3.9	1.1		
7440-50-8	COPPER	1	7.4	1.1		
7439-89-6	IRON	1	13000	11		
7439-92-1	LEAD	1	16	0.33		
7439-95-4	MAGNESIUM	1	2500	110		
7439-96-5	MANGANESE	1	180	1.1		
7439-98-7	MOLYBDENUM	1	3.9	1.1		
7440-02-0	NICKEL	1	4.4	2.2		
7440-09-7	POTASSIUM	1	1400	110		*E
7782-49-2	SELENIUM	1	11	0.56		*
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	810	110		*
7440-28-0	THALLIUM	1	2.1	1.1		
7440-31-5	TIN	1	5.6	5.6	U	
7440-62-2	VANADIUM	1	90	1.1		N
7440-66-6	ZINC	1	120	2.2		*EN

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-55-31-120128
Lab ID: 1201354-2

Sample Matrix: SOIL
% Moisture: 7.4
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.041 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4300	21		
7440-36-0	ANTIMONY	1	2.1	2.1	U	
7440-38-2	ARSENIC	1	9.7	1		
7440-39-3	BARIUM	1	93	10		
7440-41-7	BERYLLIUM	1	0.52	0.52	U	
7440-43-9	CADMIUM	1	0.52	0.52	U	
7440-70-2	CALCIUM	1	11000	100		
7440-47-3	CHROMIUM	1	2.9	1		
7440-48-4	COBALT	1	2.7	1		
7440-50-8	COPPER	1	5	1		
7439-89-6	IRON	1	9700	10		
7439-92-1	LEAD	1	12	0.31		
7439-95-4	MAGNESIUM	1	1800	100		
7439-96-5	MANGANESE	1	200	1		
7439-98-7	MOLYBDENUM	1	7.3	1		
7440-02-0	NICKEL	1	2.6	2.1		
7440-09-7	POTASSIUM	1	620	100		
7782-49-2	SELENIUM	1	25	0.52		
7440-22-4	SILVER	1	1	1	U	
7440-23-5	SODIUM	1	100	100	U	
7440-28-0	THALLIUM	1	1.6	1		
7440-31-5	TIN	1	5.2	5.2	U	
7440-62-2	VANADIUM	1	99	1		
7440-66-6	ZINC	1	18	2.1		

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-65-31-120128
Lab ID: 1201354-3

Sample Matrix: SOIL
% Moisture: 12.7
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.001 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4300	23		
7440-36-0	ANTIMONY	1	2.3	2.3	U	
7440-38-2	ARSENIC	1	12	1.1		
7440-39-3	BARIUM	1	120	11		
7440-41-7	BERYLLIUM	1	0.57	0.57	U	
7440-43-9	CADMIUM	1	0.57	0.57	U	
7440-70-2	CALCIUM	1	11000	110		
7440-47-3	CHROMIUM	1	2.8	1.1		
7440-48-4	COBALT	1	2.3	1.1		
7440-50-8	COPPER	1	6.9	1.1		
7439-89-6	IRON	1	7500	11		
7439-92-1	LEAD	1	20	0.34		
7439-95-4	MAGNESIUM	1	1800	110		
7439-96-5	MANGANESE	1	160	1.1		
7439-98-7	MOLYBDENUM	1	13	1.1		
7440-02-0	NICKEL	1	2.3	2.3	U	
7440-09-7	POTASSIUM	1	640	110		
7782-49-2	SELENIUM	1	59	0.57		
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	110	110	U	
7440-28-0	THALLIUM	1	1.1	1.1	U	
7440-31-5	TIN	1	5.7	5.7	U	
7440-62-2	VANADIUM	1	190	1.1		
7440-66-6	ZINC	1	14	2.3		

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B
Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-66-31-120128
Lab ID: 1201354-4

Sample Matrix: SOIL
% Moisture: 15.6
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.041 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	3300	23		
7440-36-0	ANTIMONY	1	2.3	2.3	U	
7440-38-2	ARSENIC	1	4.3	1.1		
7440-39-3	BARIUM	1	66	11		
7440-41-7	BERYLLIUM	1	0.57	0.57	U	
7440-43-9	CADMIUM	1	0.57	0.57	U	
7440-70-2	CALCIUM	1	13000	110		
7440-47-3	CHROMIUM	1	2.5	1.1		
7440-48-4	COBALT	1	3.7	1.1		
7440-50-8	COPPER	1	3.2	1.1		
7439-89-6	IRON	1	6600	11		
7439-92-1	LEAD	1	10	0.34		
7439-95-4	MAGNESIUM	1	1300	110		
7439-96-5	MANGANESE	1	170	1.1		
7439-98-7	MOLYBDENUM	1	3.7	1.1		
7440-02-0	NICKEL	1	3.1	2.3		
7440-09-7	POTASSIUM	1	560	110		
7782-49-2	SELENIUM	1	15	0.57		
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	110	110	U	
7440-28-0	THALLIUM	1	1.1	1.1	U	
7440-31-5	TIN	1	5.7	5.7	U	
7440-62-2	VANADIUM	1	75	1.1		
7440-66-6	ZINC	1	16	2.3		

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-70-31-120128
Lab ID: 1201354-5

Sample Matrix: SOIL
% Moisture: 14.2
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.034 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4100	23		
7440-36-0	ANTIMONY	1	2.3	2.3	U	
7440-38-2	ARSENIC	1	14	1.1		
7440-39-3	BARIUM	1	170	11		
7440-41-7	BERYLLIUM	1	0.56	0.56	U	
7440-43-9	CADMIUM	1	0.56	0.56	U	
7440-70-2	CALCIUM	1	9700	110		
7440-47-3	CHROMIUM	1	3.6	1.1		
7440-48-4	COBALT	1	2.9	1.1		
7440-50-8	COPPER	1	5.3	1.1		
7439-89-6	IRON	1	11000	11		
7439-92-1	LEAD	1	16	0.34		
7439-95-4	MAGNESIUM	1	1700	110		
7439-96-5	MANGANESE	1	150	1.1		
7439-98-7	MOLYBDENUM	1	11	1.1		
7440-02-0	NICKEL	1	3.1	2.3		
7440-09-7	POTASSIUM	1	670	110		
7782-49-2	SELENIUM	1	43	0.56		
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	110	110	U	
7440-28-0	THALLIUM	1	1.1	1.1	U	
7440-31-5	TIN	1	5.6	5.6	U	
7440-62-2	VANADIUM	1	130	1.1		
7440-66-6	ZINC	1	18	2.3		

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-70-32-120128
Lab ID: 1201354-6

Sample Matrix: SOIL
% Moisture: 14.2
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.004 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4000	23		
7440-36-0	ANTIMONY	1	2.3	2.3	U	
7440-38-2	ARSENIC	1	6.1	1.2		
7440-39-3	BARIUM	1	170	12		
7440-41-7	BERYLLIUM	1	0.58	0.58	U	
7440-43-9	CADMIUM	1	0.58	0.58	U	
7440-70-2	CALCIUM	1	14000	120		
7440-47-3	CHROMIUM	1	3	1.2		
7440-48-4	COBALT	1	3.1	1.2		
7440-50-8	COPPER	1	4.6	1.2		
7439-89-6	IRON	1	8000	12		
7439-92-1	LEAD	1	15	0.35		
7439-95-4	MAGNESIUM	1	1700	120		
7439-96-5	MANGANESE	1	160	1.2		
7439-98-7	MOLYBDENUM	1	9.9	1.2		
7440-02-0	NICKEL	1	3.2	2.3		
7440-09-7	POTASSIUM	1	650	120		
7782-49-2	SELENIUM	1	45	0.58		
7440-22-4	SILVER	1	1.2	1.2	U	
7440-23-5	SODIUM	1	130	120		
7440-28-0	THALLIUM	1	1.2	1.2	U	
7440-31-5	TIN	1	5.8	5.8	U	
7440-62-2	VANADIUM	1	120	1.2		
7440-66-6	ZINC	1	18	2.3		

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-73-31-120128
Lab ID: 1201354-7

Sample Matrix: SOIL
% Moisture: 11.6
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.031 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4400	22		
7440-36-0	ANTIMONY	1	2.2	2.2	U	
7440-38-2	ARSENIC	1	8.5	1.1		
7440-39-3	BARIUM	1	130	11		
7440-41-7	BERYLLIUM	1	0.55	0.55	U	
7440-43-9	CADMIUM	1	0.55	0.55	U	
7440-70-2	CALCIUM	1	33000	110		
7440-47-3	CHROMIUM	1	3.7	1.1		
7440-48-4	COBALT	1	3.3	1.1		
7440-50-8	COPPER	1	5.3	1.1		
7439-89-6	IRON	1	9100	11		
7439-92-1	LEAD	1	14	0.33		
7439-95-4	MAGNESIUM	1	1900	110		
7439-96-5	MANGANESE	1	200	1.1		
7439-98-7	MOLYBDENUM	1	4.7	1.1		
7440-02-0	NICKEL	1	4.8	2.2		
7440-09-7	POTASSIUM	1	820	110		
7782-49-2	SELENIUM	1	33	0.55		
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	110	110	U	
7440-28-0	THALLIUM	1	1.3	1.1		
7440-31-5	TIN	1	5.5	5.5	U	
7440-62-2	VANADIUM	1	93	1.1		
7440-66-6	ZINC	1	22	2.2		

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-77-31-120128
Lab ID: 1201354-8

Sample Matrix: SOIL
% Moisture: 21.6
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.012 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	6500	25		
7440-36-0	ANTIMONY	1	2.5	2.5	U	
7440-38-2	ARSENIC	1	8.7	1.3		
7440-39-3	BARIUM	1	91	13		
7440-41-7	BERYLLIUM	1	0.63	0.63	U	
7440-43-9	CADMIUM	1	0.63	0.63	U	
7440-70-2	CALCIUM	1	10000	130		
7440-47-3	CHROMIUM	1	5.9	1.3		
7440-48-4	COBALT	1	5.9	1.3		
7440-50-8	COPPER	1	9.9	1.3		
7439-89-6	IRON	1	14000	13		
7439-92-1	LEAD	1	17	0.38		
7439-95-4	MAGNESIUM	1	2500	130		
7439-96-5	MANGANESE	1	200	1.3		
7439-98-7	MOLYBDENUM	1	13	1.3		
7440-02-0	NICKEL	1	7	2.5		
7440-09-7	POTASSIUM	1	1400	130		
7782-49-2	SELENIUM	1	18	0.63		
7440-22-4	SILVER	1	1.3	1.3	U	
7440-23-5	SODIUM	1	130	130		
7440-28-0	THALLIUM	1	2.1	1.3		
7440-31-5	TIN	1	6.3	6.3	U	
7440-62-2	VANADIUM	1	68	1.3		
7440-66-6	ZINC	1	36	2.5		

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-82-31-120128	**Sample Matrix:** SOIL	**Prep Batch:** IP120202-2	**Sample Aliquot:** 1.031 G
Lab ID: 1201354-9	**% Moisture:** 9.2	**QCBatchID:** IP120202-2-1	**Final Volume:** 100 ML
	Date Collected: 28-Jan-12	**Run ID:** IT120202-2A1	**Result Units:** MG/KG
	Date Extracted: 02-Feb-12	**Cleanup:** NONE	**Clean DF:** 1
	Date Analyzed: 02-Feb-12	**Basis:** Dry Weight	
	Prep Method: SW3050 Rev B	**File Name:** 120202A.	

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4700	21		
7440-36-0	ANTIMONY	1	2.1	2.1	U	
7440-38-2	ARSENIC	1	10	1.1		
7440-39-3	BARIUM	1	78	11		
7440-41-7	BERYLLIUM	1	0.53	0.53	U	
7440-43-9	CADMIUM	1	0.53	0.53	U	
7440-70-2	CALCIUM	1	16000	110		
7440-47-3	CHROMIUM	1	3.8	1.1		
7440-48-4	COBALT	1	3.2	1.1		
7440-50-8	COPPER	1	4.9	1.1		
7439-89-6	IRON	1	12000	11		
7439-92-1	LEAD	1	13	0.32		
7439-95-4	MAGNESIUM	1	2100	110		
7439-96-5	MANGANESE	1	200	1.1		
7439-98-7	MOLYBDENUM	1	7.6	1.1		
7440-02-0	NICKEL	1	4	2.1		
7440-09-7	POTASSIUM	1	820	110		
7782-49-2	SELENIUM	1	26	0.53		
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	110	110	U	
7440-28-0	THALLIUM	1	1.1	1.1	U	
7440-31-5	TIN	1	5.3	5.3	U	
7440-62-2	VANADIUM	1	160	1.1		
7440-66-6	ZINC	1	24	2.1		

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-84-31-120128	**Sample Matrix:** SOIL	**Prep Batch:** IP120202-2	**Sample Aliquot:** 1.022 G
Lab ID: 1201354-10	**% Moisture:** 27.2	**QCBatchID:** IP120202-2-1	**Final Volume:** 100 ML
	Date Collected: 28-Jan-12	**Run ID:** IT120202-2A1	**Result Units:** MG/KG
	Date Extracted: 02-Feb-12	**Cleanup:** NONE	**Clean DF:** 1
	Date Analyzed: 02-Feb-12	**Basis:** Dry Weight	
	Prep Method: SW3050 Rev B	**File Name:** 120202A.	

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	9000	27		
7440-36-0	ANTIMONY	1	2.7	2.7	U	
7440-38-2	ARSENIC	1	6.5	1.3		
7440-39-3	BARIUM	1	100	13		
7440-41-7	BERYLLIUM	1	0.77	0.67		
7440-43-9	CADMIUM	1	0.67	0.67	U	
7440-70-2	CALCIUM	1	18000	130		
7440-47-3	CHROMIUM	1	8.3	1.3		
7440-48-4	COBALT	1	7.9	1.3		
7440-50-8	COPPER	1	15	1.3		
7439-89-6	IRON	1	19000	13		
7439-92-1	LEAD	1	17	0.4		
7439-95-4	MAGNESIUM	1	3000	130		
7439-96-5	MANGANESE	1	270	1.3		
7439-98-7	MOLYBDENUM	1	1.3	1.3	U	
7440-02-0	NICKEL	1	11	2.7		
7440-09-7	POTASSIUM	1	2000	130		
7782-49-2	SELENIUM	1	1.7	0.67		
7440-22-4	SILVER	1	1.3	1.3	U	
7440-23-5	SODIUM	1	130	130	U	
7440-28-0	THALLIUM	1	2.2	1.3		
7440-31-5	TIN	1	6.7	6.7	U	
7440-62-2	VANADIUM	1	29	1.3		
7440-66-6	ZINC	1	50	2.7		

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-88-31-120128
Lab ID: 1201354-11

Sample Matrix: SOIL
% Moisture: 15.7
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.007 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	5600	24		
7440-36-0	ANTIMONY	1	2.4	2.4	U	
7440-38-2	ARSENIC	1	20	1.2		
7440-39-3	BARIUM	1	87	12		
7440-41-7	BERYLLIUM	1	0.59	0.59	U	
7440-43-9	CADMIUM	1	0.59	0.59	U	
7440-70-2	CALCIUM	1	8500	120		
7440-47-3	CHROMIUM	1	4	1.2		
7440-48-4	COBALT	1	4.5	1.2		
7440-50-8	COPPER	1	8.6	1.2		
7439-89-6	IRON	1	13000	12		
7439-92-1	LEAD	1	19	0.35		
7439-95-4	MAGNESIUM	1	2300	120		
7439-96-5	MANGANESE	1	230	1.2		
7439-98-7	MOLYBDENUM	1	22	1.2		
7440-02-0	NICKEL	1	5.1	2.4		
7440-09-7	POTASSIUM	1	1100	120		
7782-49-2	SELENIUM	1	76	0.59		
7440-22-4	SILVER	1	1.2	1.2	U	
7440-23-5	SODIUM	1	120	120	U	
7440-28-0	THALLIUM	1	2.9	1.2		
7440-31-5	TIN	1	5.9	5.9	U	
7440-62-2	VANADIUM	1	160	1.2		
7440-66-6	ZINC	1	31	2.4		

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JMBKGD-NE-31-120128
Lab ID: 1201354-12

Sample Matrix: SOIL
% Moisture: 11.2
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.033 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	3000	22		
7440-36-0	ANTIMONY	1	2.2	2.2	U	
7440-38-2	ARSENIC	1	1.8	1.1		
7440-39-3	BARIUM	1	51	11		
7440-41-7	BERYLLIUM	1	0.54	0.54	U	
7440-43-9	CADMIUM	1	0.54	0.54	U	
7440-70-2	CALCIUM	1	1100	110		
7440-47-3	CHROMIUM	1	3.5	1.1		
7440-48-4	COBALT	1	2.2	1.1		
7440-50-8	COPPER	1	3.5	1.1		
7439-89-6	IRON	1	7800	11		
7439-92-1	LEAD	1	6.5	0.33		
7439-95-4	MAGNESIUM	1	970	110		
7439-96-5	MANGANESE	1	130	1.1		
7439-98-7	MOLYBDENUM	1	1.1	1.1	U	
7440-02-0	NICKEL	1	4	2.2		
7440-09-7	POTASSIUM	1	770	110		
7782-49-2	SELENIUM	1	0.81	0.54		
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	110	110	U	
7440-28-0	THALLIUM	1	1.7	1.1		
7440-31-5	TIN	1	5.4	5.4	U	
7440-62-2	VANADIUM	1	8.9	1.1		
7440-66-6	ZINC	1	19	2.2		

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JMBKGD-NW-31-120128
Lab ID: 1201354-13

Sample Matrix: SOIL
% Moisture: 7.4
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.014 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	6100	21		
7440-36-0	ANTIMONY	1	2.1	2.1	U	
7440-38-2	ARSENIC	1	7	1.1		
7440-39-3	BARIUM	1	100	11		
7440-41-7	BERYLLIUM	1	0.64	0.53		
7440-43-9	CADMIUM	1	0.53	0.53	U	
7440-70-2	CALCIUM	1	4600	110		
7440-47-3	CHROMIUM	1	7.4	1.1		
7440-48-4	COBALT	1	7	1.1		
7440-50-8	COPPER	1	9.9	1.1		
7439-89-6	IRON	5	27000	53		
7439-92-1	LEAD	5	11	1.6		
7439-95-4	MAGNESIUM	1	2800	110		
7439-96-5	MANGANESE	1	270	1.1		
7439-98-7	MOLYBDENUM	1	1.1	1.1	U	
7440-02-0	NICKEL	1	7.7	2.1		
7440-09-7	POTASSIUM	1	2300	110		
7782-49-2	SELENIUM	5	2.7	2.7	U	
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	130	110		
7440-28-0	THALLIUM	5	5.3	5.3	U	
7440-31-5	TIN	1	5.3	5.3	U	
7440-62-2	VANADIUM	5	19	5.3		
7440-66-6	ZINC	1	40	2.1		

Data Package ID: *it1201354-1*

Total URANIUM

Method SW6020 Revision A

Sample Results

Lab Name: ALS Environmental -- FC
Client Name: Weston Solutions, Inc.
Client Project ID: Johnny M ORS TO0035111101-120130-0002
Work Order Number: 1201354 **Final Volume:** 100 ml
Reporting Basis: Dry Weight **Matrix:** SOIL
Prep Method: SW3050B **Result Units:** UG/KG

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag	Sample Aliquot
JM-54-31-120128	1201354-1	01/28/2012	02/02/2012	02/03/2012	12.5	10	38000	11		1.027 g
JM-55-31-120128	1201354-2	01/28/2012	02/02/2012	02/03/2012	7.4	100	140000	100		1.041 g
JM-65-31-120128	1201354-3	01/28/2012	02/02/2012	02/03/2012	12.7	100	440000	110		1.001 g
JM-66-31-120128	1201354-4	01/28/2012	02/02/2012	02/03/2012	15.6	10	43000	11		1.041 g
JM-70-31-120128	1201354-5	01/28/2012	02/02/2012	02/03/2012	14.2	100	250000	110		1.034 g
JM-70-32-120128	1201354-6	01/28/2012	02/02/2012	02/03/2012	14.2	100	290000	120		1.004 g
JM-73-31-120128	1201354-7	01/28/2012	02/02/2012	02/03/2012	11.6	100	140000	110		1.031 g
JM-77-31-120128	1201354-8	01/28/2012	02/02/2012	02/03/2012	21.6	100	330000	130		1.012 g
JM-82-31-120128	1201354-9	01/28/2012	02/02/2012	02/03/2012	9.2	100	150000	110		1.031 g
JM-84-31-120128	1201354-10	01/28/2012	02/02/2012	02/03/2012	27.2	10	32000	13		1.022 g
JM-88-31-120128	1201354-11	01/28/2012	02/02/2012	02/03/2012	15.7	100	330000	120		1.007 g
JMBKGD-NE-31-120128	1201354-12	01/28/2012	02/02/2012	02/03/2012	11.2	10	2100	11		1.033 g
JMBKGD-NW-31-120128	1201354-13	01/28/2012	02/02/2012	02/03/2012	7.4	10	1200	11		1.014 g

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *im1201354-1*

Total MERCURY

Method SW7471 Revision A

Sample Results

Lab Name: ALS Environmental -- FC
Client Name: Weston Solutions, Inc.
Client Project ID: Johnny M ORS TO0035111101-120130-0002
Work Order Number: 1201354 **Final Volume:** 100 g
Reporting Basis: Dry Weight **Matrix:** SOIL
Prep Method: METHOD **Result Units:** MG/KG

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag	Sample Aliquot
JM-54-31-120128	1201354-1	01/28/2012	02/06/2012	02/07/2012	12.5	1	0.037	0.037	U	0.614 g
JM-55-31-120128	1201354-2	01/28/2012	02/06/2012	02/07/2012	7.4	1	0.035	0.035	U	0.616 g
JM-65-31-120128	1201354-3	01/28/2012	02/06/2012	02/07/2012	12.7	1	0.053	0.038		0.603 g
JM-66-31-120128	1201354-4	01/28/2012	02/06/2012	02/07/2012	15.6	1	0.039	0.039	U	0.613 g
JM-70-31-120128	1201354-5	01/28/2012	02/06/2012	02/07/2012	14.2	1	0.039	0.039	U	0.605 g
JM-70-32-120128	1201354-6	01/28/2012	02/06/2012	02/07/2012	14.2	1	0.039	0.039	U	0.6 g
JM-73-31-120128	1201354-7	01/28/2012	02/06/2012	02/07/2012	11.6	1	0.037	0.037	U	0.615 g
JM-77-31-120128	1201354-8	01/28/2012	02/06/2012	02/07/2012	21.6	1	0.046	0.042		0.604 g
JM-82-31-120128	1201354-9	01/28/2012	02/06/2012	02/07/2012	9.2	1	0.036	0.036	U	0.608 g
JM-84-31-120128	1201354-10	01/28/2012	02/06/2012	02/07/2012	27.2	1	0.045	0.045	U	0.61 g
JM-88-31-120128	1201354-11	01/28/2012	02/06/2012	02/07/2012	15.7	1	0.072	0.039		0.602 g
JMBKGD-NE-31-120128	1201354-12	01/28/2012	02/06/2012	02/07/2012	11.2	1	0.037	0.037	U	0.614 g
JMBKGD-NW-31-120128	1201354-13	01/28/2012	02/06/2012	02/07/2012	7.4	1	0.036	0.036	U	0.608 g

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *hg1201354-1*

Summary Report Forms

ICP Metals

Method SW6010B
Method Blank

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: IP120202-2MB

Sample Matrix:	SOIL	**Prep Batch:**	IP120202-2	**Sample Aliquot:**	1 g
% Moisture:	N/A	**QCBatchID:**	IP120202-2-1	**Final Volume:**	100 ml
Date Collected:	N/A	**Run ID:**	IT120202-2A1	**Result Units:**	MG/KG
Date Extracted:	02-Feb-12	**Cleanup:**	NONE	**Clean DF:**	1
Date Analyzed:	02-Feb-12	**Basis:**	N/A		
Prep Method:	SW3050 Rev B	**File Name:**	120202A.		

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	20	20	U	
7440-36-0	ANTIMONY	1	2	2	U	
7440-38-2	ARSENIC	1	1	1	U	
7440-39-3	BARIUM	1	10	10	U	
7440-41-7	BERYLLIUM	1	0.5	0.5	U	
7440-43-9	CADMIUM	1	0.5	0.5	U	
7440-70-2	CALCIUM	1	100	100	U	
7440-47-3	CHROMIUM	1	1	1	U	
7440-48-4	COBALT	1	1	1	U	
7440-50-8	COPPER	1	1	1	U	
7439-89-6	IRON	1	10	10	U	
7439-92-1	LEAD	1	0.3	0.3	U	
7439-95-4	MAGNESIUM	1	100	100	U	
7439-96-5	MANGANESE	1	1	1	U	
7439-98-7	MOLYBDENUM	1	1	1	U	
7440-02-0	NICKEL	1	2	2	U	
7440-09-7	POTASSIUM	1	100	100	U	
7782-49-2	SELENIUM	1	0.5	0.5	U	
7440-22-4	SILVER	1	1	1	U	
7440-23-5	SODIUM	1	100	100	U	
7440-28-0	THALLIUM	1	1	1	U	
7440-31-5	TIN	1	5	5	U	
7440-62-2	VANADIUM	1	1	1	U	
7440-66-6	ZINC	1	2	2	U	

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010B

Laboratory Control Sample

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: IP120202-2LCS

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02/02/2012
Date Analyzed: 02/02/2012
Prep Method: SW3050B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: N/A
File Name: 120202A.

Sample Aliquot: 1 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7429-90-5	ALUMINUM	200	218	20		109	80 - 120%
7440-36-0	ANTIMONY	50	45.6	2		91	80 - 120%
7440-38-2	ARSENIC	200	190	1		95	80 - 120%
7440-39-3	BARIUM	200	208	10		104	80 - 120%
7440-41-7	BERYLLIUM	5	4.74	0.5		95	80 - 120%
7440-43-9	CADMIUM	5	4.97	0.5		99	80 - 120%
7440-70-2	CALCIUM	4000	3720	100		93	80 - 120%
7440-47-3	CHROMIUM	20	19.5	1		97	80 - 120%
7440-48-4	COBALT	50	47.6	1		95	80 - 120%
7440-50-8	COPPER	25	25.7	1		103	80 - 120%
7439-89-6	IRON	100	104	10		104	80 - 120%
7439-92-1	LEAD	50	48.5	0.3		97	80 - 120%
7439-95-4	MAGNESIUM	4000	3620	100		90	80 - 120%
7439-96-5	MANGANESE	50	49.5	1		99	80 - 120%
7439-98-7	MOLYBDENUM	100	96.3	1		96	80 - 120%
7440-02-0	NICKEL	50	48.2	2		96	80 - 120%
7440-09-7	POTASSIUM	4000	3760	100		94	80 - 120%
7782-49-2	SELENIUM	200	179	0.5		90	80 - 120%
7440-22-4	SILVER	10	9.34	1		93	80 - 120%
7440-23-5	SODIUM	4000	3590	100		90	80 - 120%
7440-28-0	THALLIUM	200	198	1		99	80 - 120%
7440-31-5	TIN	50	49.2	5		98	80 - 120%
7440-62-2	VANADIUM	50	48.9	1		98	80 - 120%
7440-66-6	ZINC	50	46.5	2		93	80 - 120%

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010B

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-54-31-120128
LabID: 1201354-1MS

Sample Matrix: SOIL
% Moisture: 12.5
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 1.018 g
Final Volume: 100 ml
Result Units: MG/KG
File Name: 120202A.

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7429-90-5	ALUMINUM	6600		9990		22.5	225	1490	80 - 120%
7440-36-0	ANTIMONY	2.2	U	28.8	N	2.25	56.2	51	80 - 120%
7440-38-2	ARSENIC	6.5		222		1.12	225	96	80 - 120%
7440-39-3	BARIUM	330		379	N	11.2	225	20	80 - 120%
7440-41-7	BERYLLIUM	0.56	U	6.02		0.562	5.62	107	80 - 120%
7440-43-9	CADMIUM	0.56	U	5.89		0.562	5.62	105	80 - 120%
7440-70-2	CALCIUM	9600		12500	N	112	4490	65	80 - 120%
7440-47-3	CHROMIUM	5		28.9		1.12	22.5	106	80 - 120%
7440-48-4	COBALT	3.9		58.2		1.12	56.2	97	80 - 120%
7440-50-8	COPPER	7.4		37.8		1.12	28.1	108	80 - 120%
7439-89-6	IRON	13000		14200		11.2	112	954	80 - 120%
7439-92-1	LEAD	16		69.7		0.337	56.2	96	80 - 120%
7439-95-4	MAGNESIUM	2500		7090		112	4490	102	80 - 120%
7439-96-5	MANGANESE	180		232		1.12	56.2	85	80 - 120%
7439-98-7	MOLYBDENUM	3.9		110		1.12	112	95	80 - 120%
7440-02-0	NICKEL	4.4		59.8		2.25	56.2	99	80 - 120%
7440-09-7	POTASSIUM	1400		6030		112	4490	104	80 - 120%
7782-49-2	SELENIUM	11		213		0.562	225	90	80 - 120%
7440-22-4	SILVER	1.1	U	10.8		1.12	11.2	96	80 - 120%
7440-23-5	SODIUM	810		4490		112	4490	82	80 - 120%
7440-28-0	THALLIUM	2.1		225		1.12	225	99	80 - 120%
7440-31-5	TIN	5.6	U	57.5		5.62	56.2	102	80 - 120%
7440-62-2	VANADIUM	90		170	N	1.12	56.2	142	80 - 120%
7440-66-6	ZINC	120		85.2	N	2.25	56.2	-70	80 - 120%

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010B

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-54-31-120128
LabID: 1201354-1MSD

Sample Matrix: SOIL
% Moisture: 12.5
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 1.015 g
Final Volume: 100 ml
Result Units: MG/KG
File Name: 120202A.

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7429-90-5	ALUMINUM	10300		225	1611	22.5	20	3
7440-36-0	ANTIMONY	29	N	56.3	52	2.25	20	1
7440-38-2	ARSENIC	222		225	96	1.13	20	0
7440-39-3	BARIUM	388	N	225	24	11.3	20	2
7440-41-7	BERYLLIUM	6.02		5.63	107	0.563	20	0
7440-43-9	CADMIUM	5.87		5.63	104	0.563	20	0
7440-70-2	CALCIUM	13100	N	4510	78	113	20	4
7440-47-3	CHROMIUM	29		22.5	106	1.13	20	0
7440-48-4	COBALT	58.1		56.3	96	1.13	20	0
7440-50-8	COPPER	38.4		28.2	110	1.13	20	1
7439-89-6	IRON	14600		113	1279	11.3	20	3
7439-92-1	LEAD	71.1		56.3	98	0.338	20	2
7439-95-4	MAGNESIUM	7190		4510	104	113	20	2
7439-96-5	MANGANESE	240		56.3	99	1.13	20	3
7439-98-7	MOLYBDENUM	110		113	95	1.13	20	0
7440-02-0	NICKEL	60.3		56.3	99	2.25	20	1
7440-09-7	POTASSIUM	6140		4510	106	113	20	2
7782-49-2	SELENIUM	213		225	90	0.563	20	0
7440-22-4	SILVER	10.9		11.3	97	1.13	20	1
7440-23-5	SODIUM	4560		4510	83	113	20	1
7440-28-0	THALLIUM	223		225	98	1.13	20	0
7440-31-5	TIN	56.5		56.3	100	5.63	20	2
7440-62-2	VANADIUM	176	N	56.3	154	1.13	20	4
7440-66-6	ZINC	84.7	N	56.3	-71	2.25	20	1

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Analytical Spike Sample Recovery

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-54-31-120128
LabID: 1201354-1A

Run ID: IT120202-2A1
Date Analyzed: 02-Feb-12
Result Units: mg/l

Target Analyte	Sample Result	Samp Qual	PS Result	PS Qual	Spike Added	PS % Rec.	Control Limits
ANTIMONY	0.0200	U	0.478		0.5	96	75 - 125%
BARIUM	3.01		5.03		2	101	75 - 125%
CALCIUM	86.2		122		40	89	75 - 125%
VANADIUM	0.806		1.26		0.5	91	75 - 125%
ZINC	1.12		1.54		0.5	85	75 - 125%

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Duplicate Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-54-31-120128
Lab ID: 1201354-1D

Sample Matrix: SOIL
% Moisture: 12.5
Date Collected: 01/28/2012
Date Extracted: 02/02/2012
Date Analyzed: 02/02/2012

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.023 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Sample Result	Samp Qual	Duplicate Result	Dup Qual	Reporting Limit	Dilution Factor	RPD	RPD Limit
7429-90-5	ALUMINUM	6600		6190		22.4	1	7	20
7440-36-0	ANTIMONY	2.2	U	2.24	U	2.24	1		20
7440-38-2	ARSENIC	6.5		5.98		1.12	1	9	20
7440-39-3	BARIUM	330		154	*	11.2	1	74	20
7440-41-7	BERYLLIUM	0.56	U	0.559	U	0.559	1		20
7440-43-9	CADMIUM	0.56	U	0.559	U	0.559	1		20
7440-70-2	CALCIUM	9600		8100		112	1	17	20
7440-47-3	CHROMIUM	5		4.71		1.12	1		20
7440-48-4	COBALT	3.9		3.63		1.12	1		20
7440-50-8	COPPER	7.4		6.8		1.12	1	9	20
7439-89-6	IRON	13000		12700		11.2	1	4	20
7439-92-1	LEAD	16		14.8		0.335	1	8	20
7439-95-4	MAGNESIUM	2500		2320		112	1	8	20
7439-96-5	MANGANESE	180		166		1.12	1	10	20
7439-98-7	MOLYBDENUM	3.9		3.79		1.12	1		20
7440-02-0	NICKEL	4.4		4.26		2.24	1		20
7440-09-7	POTASSIUM	1400		1050	*	112	1	25	20
7782-49-2	SELENIUM	11		15.3	*	0.559	1	33	20
7440-22-4	SILVER	1.1	U	1.12	U	1.12	1		20
7440-23-5	SODIUM	810		148	*	112	1	138	20
7440-28-0	THALLIUM	2.1		1.77		1.12	1		20
7440-31-5	TIN	5.6	U	5.59	U	5.59	1		20
7440-62-2	VANADIUM	90		90.3		1.12	1	1	20
7440-66-6	ZINC	120		59	*	2.24	1	71	20

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010
Serial Dilution

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-54-31-120128
Lab ID: 1201354-1L

Run ID: IT120202-2A1
Date Analyzed: 02-Feb-12
Result Units: mg/l

CASNO	Target Analyte	Sample Result	Samp Qual	SD Result	SD Qual	EPA Qualifier	%D
7429-90-5	ALUMINUM	59.7		57.9			3
7440-36-0	ANTIMONY	0.0200	U	0.100	U		
7440-38-2	ARSENIC	0.0588		0.0657			
7440-39-3	BARIUM	3.01		2.56		E	15
7440-41-7	BERYLLIUM	0.00500	U	0.0250	U		
7440-43-9	CADMIUM	0.00500	U	0.0250	U		
7440-70-2	CALCIUM	86.2		85.6			1
7440-47-3	CHROMIUM	0.0452		0.0500	U		
7440-48-4	COBALT	0.0353		0.0500	U		
7440-50-8	COPPER	0.0665		0.0500	U		
7439-89-6	IRON	118		114			4
7439-92-1	LEAD	0.144		0.140			3
7439-95-4	MAGNESIUM	22.5		21.8			3
7439-96-5	MANGANESE	1.65		1.66			0
7439-98-7	MOLYBDENUM	0.0349		0.0500	U		
7440-02-0	NICKEL	0.0396		0.100	U		
7440-09-7	POTASSIUM	12.1		7.58		E	38
7782-49-2	SELENIUM	0.0988		0.0898			9
7440-22-4	SILVER	0.0100	U	0.0500	U		
7440-23-5	SODIUM	7.31		5.00	U		
7440-28-0	THALLIUM	0.0190		0.0500	U		
7440-31-5	TIN	0.0500	U	0.250	U		
7440-62-2	VANADIUM	0.806		0.811			1
7440-66-6	ZINC	1.12		0.973		E	13

Data Package ID: *it1201354-1*

Prep Batch ID: IP120202-2

Start Date: 02/02/12
Start Time: 7:00
Prep Analyst: Brent A. Stanfield

End Date: 02/02/12
End Time: 17:00

Concentration Method: NONE
Extract Method: SW3050B
Initial Volume Units: g
Final Volume Units: ml

Batch Created By: bas
Date Created: 02/02/12
Time Created: 7:00
Validated By: bas
Date Validated: 02/02/12
Time Validated: 7:35

Comments:

QC Batch ID: IP120202-2-1

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
IP120202-2	MB	XXXXXX	SOIL	XXXXXX	1	100	NONE	1	1201354
IP120202-2	LCS	XXXXXX	SOIL	XXXXXX	1	100	NONE	1	1201354
1201354-1	MS	JM-54-31-120128	SOIL	1/28/2012	1.018	100	NONE	1	1201354
1201354-1	MSD	JM-54-31-120128	SOIL	1/28/2012	1.015	100	NONE	1	1201354
1201354-1	DUP	JM-54-31-120128	SOIL	1/28/2012	1.023	100	NONE	1	1201354
1201354-1	SMP	JM-54-31-120128	SOIL	1/28/2012	1.027	100	NONE	1	1201354
1201354-10	SMP	JM-84-31-120128	SOIL	1/28/2012	1.022	100	NONE	1	1201354
1201354-11	SMP	JM-88-31-120128	SOIL	1/28/2012	1.007	100	NONE	1	1201354
1201354-12	SMP	JMBKGD-NE-31-1201	SOIL	1/28/2012	1.033	100	NONE	1	1201354
1201354-13	SMP	JMBKGD-NW-31-120	SOIL	1/28/2012	1.014	100	NONE	1	1201354
1201354-2	SMP	JM-55-31-120128	SOIL	1/28/2012	1.041	100	NONE	1	1201354
1201354-3	SMP	JM-65-31-120128	SOIL	1/28/2012	1.001	100	NONE	1	1201354
1201354-4	SMP	JM-66-31-120128	SOIL	1/28/2012	1.041	100	NONE	1	1201354
1201354-5	SMP	JM-70-31-120128	SOIL	1/28/2012	1.034	100	NONE	1	1201354
1201354-6	SMP	JM-70-32-120128	SOIL	1/28/2012	1.004	100	NONE	1	1201354
1201354-7	SMP	JM-73-31-120128	SOIL	1/28/2012	1.031	100	NONE	1	1201354
1201354-8	SMP	JM-77-31-120128	SOIL	1/28/2012	1.012	100	NONE	1	1201354
1201354-9	SMP	JM-82-31-120128	SOIL	1/28/2012	1.031	100	NONE	1	1201354

QC Types

CAR	Carrier reference sample	DUP	Laboratory Duplicate
LCS	Laboratory Control Sample	LCSD	Laboratory Control Sample Duplicat
MB	Method Blank	MS	Laboratory Matrix Spike
MSD	Laboratory Matrix Spike Duplicate	REP	Sample replicate
RVS	Reporting Level Verification Standar	SMP	Field Sample
SYS	Sample Yield Spike		

ICP Metals

Method SW6010

Calibration Verifications

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: ICV
QC Type: Initial Calibration
File Name: 120202A.

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 15:07
Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
7429-90-5	ALUMINUM	25	25.5	0.2		102	90 - 110%
7440-36-0	ANTIMONY	0.25	0.246	0.02		98	90 - 110%
7440-38-2	ARSENIC	0.25	0.259	0.01		104	90 - 110%
7440-39-3	BARIUM	0.5	0.528	0.1		106	90 - 110%
7440-41-7	BERYLLIUM	0.25	0.250	0.005		100	90 - 110%
7440-43-9	CADMIUM	0.25	0.253	0.005		101	90 - 110%
7440-70-2	CALCIUM	25	25.1	1		100	90 - 110%
7440-47-3	CHROMIUM	0.5	0.510	0.01		102	90 - 110%
7440-48-4	COBALT	0.25	0.249	0.01		100	90 - 110%
7440-50-8	COPPER	0.5	0.512	0.01		102	90 - 110%
7439-89-6	IRON	10	10.2	0.1		102	90 - 110%
7439-92-1	LEAD	0.5	0.509	0.003		102	90 - 110%
7439-95-4	MAGNESIUM	25	24.8	1		99	90 - 110%
7439-96-5	MANGANESE	0.5	0.513	0.01		103	90 - 110%
7439-98-7	MOLYBDENUM	0.5	0.499	0.01		100	90 - 110%
7440-02-0	NICKEL	0.5	0.497	0.02		99	90 - 110%
7440-09-7	POTASSIUM	25	23.5	1		94	90 - 110%
7782-49-2	SELENIUM	0.5	0.510	0.005		102	90 - 110%
7440-22-4	SILVER	0.1	0.104	0.01		104	90 - 110%
7440-23-5	SODIUM	25	22.9	1		92	90 - 110%
7440-28-0	THALLIUM	0.25	0.266	0.01		106	90 - 110%
7440-31-5	TIN	0.5	0.521	0.05		104	90 - 110%
7440-61-1	URANIUM	2.5	2.55	0.2		102	90 - 110%
7440-62-2	VANADIUM	0.25	0.251	0.01		100	90 - 110%
7440-66-6	ZINC	0.5	0.492	0.02		98	90 - 110%

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Verifications

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCV1
QC Type: Continuing Calibration
File Name: 120202A.

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 15:22
Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
7429-90-5	ALUMINUM	50	51.6	0.2		103	90 - 110%
7440-36-0	ANTIMONY	0.5	0.495	0.02		99	90 - 110%
7440-38-2	ARSENIC	0.5	0.517	0.01		103	90 - 110%
7440-39-3	BARIUM	1	1.07	0.1		107	90 - 110%
7440-41-7	BERYLLIUM	0.5	0.488	0.005		98	90 - 110%
7440-43-9	CADMIUM	0.5	0.507	0.005		101	90 - 110%
7440-70-2	CALCIUM	50	50.5	1		101	90 - 110%
7440-47-3	CHROMIUM	1	1.01	0.01		101	90 - 110%
7440-48-4	COBALT	0.5	0.494	0.01		99	90 - 110%
7440-50-8	COPPER	1	1.04	0.01		104	90 - 110%
7439-89-6	IRON	20	20.4	0.1		102	90 - 110%
7439-92-1	LEAD	1	1.01	0.003		101	90 - 110%
7439-95-4	MAGNESIUM	50	50.1	1		100	90 - 110%
7439-96-5	MANGANESE	1	1.01	0.01		101	90 - 110%
7439-98-7	MOLYBDENUM	1	1.00	0.01		100	90 - 110%
7440-02-0	NICKEL	1	1.01	0.02		101	90 - 110%
7440-09-7	POTASSIUM	50	51.5	1		103	90 - 110%
7782-49-2	SELENIUM	1	1.02	0.005		102	90 - 110%
7440-22-4	SILVER	0.2	0.208	0.01		104	90 - 110%
7440-23-5	SODIUM	50	48.2	1		96	90 - 110%
7440-28-0	THALLIUM	0.5	0.520	0.01		104	90 - 110%
7440-31-5	TIN	1	1.03	0.05		103	90 - 110%
7440-61-1	URANIUM	5	5.14	0.2		103	90 - 110%
7440-62-2	VANADIUM	0.5	0.499	0.01		100	90 - 110%
7440-66-6	ZINC	1	0.966	0.02		97	90 - 110%

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Verifications

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCV2
QC Type: Continuing Calibration
File Name: 120202A.

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 15:26
Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
7429-90-5	ALUMINUM	50	51.5	0.2		103	90 - 110%
7440-36-0	ANTIMONY	0.5	0.489	0.02		98	90 - 110%
7440-38-2	ARSENIC	0.5	0.513	0.01		103	90 - 110%
7440-39-3	BARIUM	1	1.06	0.1		106	90 - 110%
7440-41-7	BERYLLIUM	0.5	0.486	0.005		97	90 - 110%
7440-43-9	CADMIUM	0.5	0.505	0.005		101	90 - 110%
7440-70-2	CALCIUM	50	50.2	1		100	90 - 110%
7440-47-3	CHROMIUM	1	1.01	0.01		101	90 - 110%
7440-48-4	COBALT	0.5	0.492	0.01		98	90 - 110%
7440-50-8	COPPER	1	1.04	0.01		104	90 - 110%
7439-89-6	IRON	20	20.3	0.1		102	90 - 110%
7439-92-1	LEAD	1	1.00	0.003		100	90 - 110%
7439-95-4	MAGNESIUM	50	49.9	1		100	90 - 110%
7439-96-5	MANGANESE	1	1.01	0.01		101	90 - 110%
7439-98-7	MOLYBDENUM	1	0.985	0.01		99	90 - 110%
7440-02-0	NICKEL	1	0.991	0.02		99	90 - 110%
7440-09-7	POTASSIUM	50	51.4	1		103	90 - 110%
7782-49-2	SELENIUM	1	1.00	0.005		100	90 - 110%
7440-22-4	SILVER	0.2	0.209	0.01		104	90 - 110%
7440-23-5	SODIUM	50	48.1	1		96	90 - 110%
7440-28-0	THALLIUM	0.5	0.517	0.01		103	90 - 110%
7440-31-5	TIN	1	1.02	0.05		102	90 - 110%
7440-61-1	URANIUM	5	5.14	0.2		103	90 - 110%
7440-62-2	VANADIUM	0.5	0.497	0.01		99	90 - 110%
7440-66-6	ZINC	1	0.953	0.02		95	90 - 110%

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Verifications

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCV3
QC Type: Continuing Calibration
File Name: 120202A.

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 15:55
Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
7429-90-5	ALUMINUM	50	51.8	0.2		104	90 - 110%
7440-36-0	ANTIMONY	0.5	0.494	0.02		99	90 - 110%
7440-38-2	ARSENIC	0.5	0.518	0.01		104	90 - 110%
7440-39-3	BARIUM	1	1.07	0.1		107	90 - 110%
7440-41-7	BERYLLIUM	0.5	0.486	0.005		97	90 - 110%
7440-43-9	CADMIUM	0.5	0.508	0.005		102	90 - 110%
7440-70-2	CALCIUM	50	50.4	1		101	90 - 110%
7440-47-3	CHROMIUM	1	1.01	0.01		101	90 - 110%
7440-48-4	COBALT	0.5	0.493	0.01		99	90 - 110%
7440-50-8	COPPER	1	1.05	0.01		105	90 - 110%
7439-89-6	IRON	20	20.3	0.1		102	90 - 110%
7439-92-1	LEAD	1	1.01	0.003		101	90 - 110%
7439-95-4	MAGNESIUM	50	49.9	1		100	90 - 110%
7439-96-5	MANGANESE	1	1.01	0.01		101	90 - 110%
7439-98-7	MOLYBDENUM	1	0.996	0.01		100	90 - 110%
7440-02-0	NICKEL	1	1.01	0.02		101	90 - 110%
7440-09-7	POTASSIUM	50	51.8	1		104	90 - 110%
7782-49-2	SELENIUM	1	1.01	0.005		101	90 - 110%
7440-22-4	SILVER	0.2	0.210	0.01		105	90 - 110%
7440-23-5	SODIUM	50	48.4	1		97	90 - 110%
7440-28-0	THALLIUM	0.5	0.523	0.01		105	90 - 110%
7440-31-5	TIN	1	1.03	0.05		103	90 - 110%
7440-61-1	URANIUM	5	5.18	0.2		104	90 - 110%
7440-62-2	VANADIUM	0.5	0.499	0.01		100	90 - 110%
7440-66-6	ZINC	1	0.949	0.02		95	90 - 110%

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Verifications

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCV4
QC Type: Continuing Calibration
File Name: 120202A.

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 16:19
Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
7429-90-5	ALUMINUM	50	52.2	0.2		104	90 - 110%
7440-36-0	ANTIMONY	0.5	0.500	0.02		100	90 - 110%
7440-38-2	ARSENIC	0.5	0.530	0.01		106	90 - 110%
7440-39-3	BARIUM	1	1.08	0.1		108	90 - 110%
7440-41-7	BERYLLIUM	0.5	0.490	0.005		98	90 - 110%
7440-43-9	CADMIUM	0.5	0.509	0.005		102	90 - 110%
7440-70-2	CALCIUM	50	50.4	1		101	90 - 110%
7440-47-3	CHROMIUM	1	1.01	0.01		101	90 - 110%
7440-48-4	COBALT	0.5	0.495	0.01		99	90 - 110%
7440-50-8	COPPER	1	1.06	0.01		106	90 - 110%
7439-89-6	IRON	20	20.4	0.1		102	90 - 110%
7439-92-1	LEAD	1	1.01	0.003		101	90 - 110%
7439-95-4	MAGNESIUM	50	50.4	1		101	90 - 110%
7439-96-5	MANGANESE	1	1.01	0.01		101	90 - 110%
7439-98-7	MOLYBDENUM	1	1.00	0.01		100	90 - 110%
7440-02-0	NICKEL	1	1.01	0.02		101	90 - 110%
7440-09-7	POTASSIUM	50	52.0	1		104	90 - 110%
7782-49-2	SELENIUM	1	1.01	0.005		101	90 - 110%
7440-22-4	SILVER	0.2	0.212	0.01		106	90 - 110%
7440-23-5	SODIUM	50	48.7	1		97	90 - 110%
7440-28-0	THALLIUM	0.5	0.525	0.01		105	90 - 110%
7440-31-5	TIN	1	1.04	0.05		104	90 - 110%
7440-61-1	URANIUM	5	5.20	0.2		104	90 - 110%
7440-62-2	VANADIUM	0.5	0.500	0.01		100	90 - 110%
7440-66-6	ZINC	1	0.967	0.02		97	90 - 110%

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Verifications

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCV5
QC Type: Continuing Calibration
File Name: 120202A.

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 16:44
Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
7429-90-5	ALUMINUM	50	51.7	0.2		103	90 - 110%
7440-36-0	ANTIMONY	0.5	0.494	0.02		99	90 - 110%
7440-38-2	ARSENIC	0.5	0.529	0.01		106	90 - 110%
7440-39-3	BARIUM	1	1.06	0.1		106	90 - 110%
7440-41-7	BERYLLIUM	0.5	0.491	0.005		98	90 - 110%
7440-43-9	CADMIUM	0.5	0.513	0.005		103	90 - 110%
7440-70-2	CALCIUM	50	50.9	1		102	90 - 110%
7440-47-3	CHROMIUM	1	1.02	0.01		102	90 - 110%
7440-48-4	COBALT	0.5	0.497	0.01		99	90 - 110%
7440-50-8	COPPER	1	1.05	0.01		105	90 - 110%
7439-89-6	IRON	20	20.3	0.1		102	90 - 110%
7439-92-1	LEAD	1	1.01	0.003		101	90 - 110%
7439-95-4	MAGNESIUM	50	50.2	1		100	90 - 110%
7439-96-5	MANGANESE	1	1.01	0.01		101	90 - 110%
7439-98-7	MOLYBDENUM	1	1.01	0.01		101	90 - 110%
7440-02-0	NICKEL	1	1.00	0.02		100	90 - 110%
7440-09-7	POTASSIUM	50	51.4	1		103	90 - 110%
7782-49-2	SELENIUM	1	1.01	0.005		101	90 - 110%
7440-22-4	SILVER	0.2	0.211	0.01		106	90 - 110%
7440-23-5	SODIUM	50	47.9	1		96	90 - 110%
7440-28-0	THALLIUM	0.5	0.531	0.01		106	90 - 110%
7440-31-5	TIN	1	1.04	0.05		104	90 - 110%
7440-61-1	URANIUM	5	5.15	0.2		103	90 - 110%
7440-62-2	VANADIUM	0.5	0.501	0.01		100	90 - 110%
7440-66-6	ZINC	1	0.985	0.02		99	90 - 110%

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Verifications

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCV6
QC Type: Continuing Calibration
File Name: 120202A.

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 17:09
Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
7429-90-5	ALUMINUM	50	51.5	0.2		103	90 - 110%
7440-36-0	ANTIMONY	0.5	0.497	0.02		99	90 - 110%
7440-38-2	ARSENIC	0.5	0.525	0.01		105	90 - 110%
7440-39-3	BARIUM	1	1.06	0.1		106	90 - 110%
7440-41-7	BERYLLIUM	0.5	0.488	0.005		98	90 - 110%
7440-43-9	CADMIUM	0.5	0.511	0.005		102	90 - 110%
7440-70-2	CALCIUM	50	50.8	1		102	90 - 110%
7440-47-3	CHROMIUM	1	1.01	0.01		101	90 - 110%
7440-48-4	COBALT	0.5	0.495	0.01		99	90 - 110%
7440-50-8	COPPER	1	1.04	0.01		104	90 - 110%
7439-89-6	IRON	20	20.3	0.1		101	90 - 110%
7439-92-1	LEAD	1	1.00	0.003		100	90 - 110%
7439-95-4	MAGNESIUM	50	50.1	1		100	90 - 110%
7439-96-5	MANGANESE	1	1.01	0.01		101	90 - 110%
7439-98-7	MOLYBDENUM	1	1.00	0.01		100	90 - 110%
7440-02-0	NICKEL	1	1.00	0.02		100	90 - 110%
7440-09-7	POTASSIUM	50	51.0	1		102	90 - 110%
7782-49-2	SELENIUM	1	0.997	0.005		100	90 - 110%
7440-22-4	SILVER	0.2	0.213	0.01		106	90 - 110%
7440-23-5	SODIUM	50	47.8	1		96	90 - 110%
7440-28-0	THALLIUM	0.5	0.535	0.01		107	90 - 110%
7440-31-5	TIN	1	1.03	0.05		103	90 - 110%
7440-61-1	URANIUM	5	5.09	0.2		102	90 - 110%
7440-62-2	VANADIUM	0.5	0.498	0.01		100	90 - 110%
7440-66-6	ZINC	1	0.977	0.02		98	90 - 110%

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Blanks

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: ICB
QC Type: Initial Calibration

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 3:09:00 PM
Result Units: MG/L

CASNO	Target Analyte	Result	Reporting Limit	Result Qualifier
7429-90-5	ALUMINUM	0.2	0.2	U
7440-36-0	ANTIMONY	0.02	0.02	U
7440-38-2	ARSENIC	0.01	0.01	U
7440-39-3	BARIUM	0.1	0.1	U
7440-41-7	BERYLLIUM	0.005	0.005	U
7440-43-9	CADMIUM	0.005	0.005	U
7440-70-2	CALCIUM	1	1	U
7440-47-3	CHROMIUM	0.01	0.01	U
7440-48-4	COBALT	0.01	0.01	U
7440-50-8	COPPER	0.01	0.01	U
7439-89-6	IRON	0.1	0.1	U
7439-92-1	LEAD	0.003	0.003	U
7439-95-4	MAGNESIUM	1	1	U
7439-96-5	MANGANESE	0.01	0.01	U
7439-98-7	MOLYBDENUM	0.01	0.01	U
7440-02-0	NICKEL	0.02	0.02	U
7440-09-7	POTASSIUM	1	1	U
7782-49-2	SELENIUM	0.005	0.005	U
7440-22-4	SILVER	0.01	0.01	U
7440-23-5	SODIUM	1	1	U
7440-28-0	THALLIUM	0.01	0.01	U
7440-31-5	TIN	0.05	0.05	U
7440-61-1	URANIUM	0.2	0.2	U
7440-62-2	VANADIUM	0.01	0.01	U
7440-66-6	ZINC	0.02	0.02	U

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Blanks

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCB1
QC Type: Continuing Calibration

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 3:24:00 PM
Result Units: MG/L

CASNO	Target Analyte	Result	Reporting Limit	Result Qualifier
7429-90-5	ALUMINUM	0.2	0.2	U
7440-36-0	ANTIMONY	0.02	0.02	U
7440-38-2	ARSENIC	0.01	0.01	U
7440-39-3	BARIUM	0.1	0.1	U
7440-41-7	BERYLLIUM	0.005	0.005	U
7440-43-9	CADMIUM	0.005	0.005	U
7440-70-2	CALCIUM	1	1	U
7440-47-3	CHROMIUM	0.01	0.01	U
7440-48-4	COBALT	0.01	0.01	U
7440-50-8	COPPER	0.01	0.01	U
7439-89-6	IRON	0.1	0.1	U
7439-92-1	LEAD	0.003	0.003	U
7439-95-4	MAGNESIUM	1	1	U
7439-96-5	MANGANESE	0.01	0.01	U
7439-98-7	MOLYBDENUM	0.01	0.01	U
7440-02-0	NICKEL	0.02	0.02	U
7440-09-7	POTASSIUM	1	1	U
7782-49-2	SELENIUM	0.005	0.005	U
7440-22-4	SILVER	0.01	0.01	U
7440-23-5	SODIUM	1	1	U
7440-28-0	THALLIUM	0.01	0.01	U
7440-31-5	TIN	0.05	0.05	U
7440-61-1	URANIUM	0.2	0.2	U
7440-62-2	VANADIUM	0.01	0.01	U
7440-66-6	ZINC	0.02	0.02	U

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Blanks

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCB2
QC Type: Continuing Calibration

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 3:30:00 PM
Result Units: MG/L

CASNO	Target Analyte	Result	Reporting Limit	Result Qualifier
7429-90-5	ALUMINUM	0.2	0.2	U
7440-36-0	ANTIMONY	0.02	0.02	U
7440-38-2	ARSENIC	0.01	0.01	U
7440-39-3	BARIUM	0.1	0.1	U
7440-41-7	BERYLLIUM	0.005	0.005	U
7440-43-9	CADMIUM	0.005	0.005	U
7440-70-2	CALCIUM	1	1	U
7440-47-3	CHROMIUM	0.01	0.01	U
7440-48-4	COBALT	0.01	0.01	U
7440-50-8	COPPER	0.01	0.01	U
7439-89-6	IRON	0.1	0.1	U
7439-92-1	LEAD	0.003	0.003	U
7439-95-4	MAGNESIUM	1	1	U
7439-96-5	MANGANESE	0.01	0.01	U
7439-98-7	MOLYBDENUM	0.01	0.01	U
7440-02-0	NICKEL	0.02	0.02	U
7440-09-7	POTASSIUM	1	1	U
7782-49-2	SELENIUM	0.005	0.005	U
7440-22-4	SILVER	0.01	0.01	U
7440-23-5	SODIUM	1	1	U
7440-28-0	THALLIUM	0.01	0.01	U
7440-31-5	TIN	0.05	0.05	U
7440-61-1	URANIUM	0.2	0.2	U
7440-62-2	VANADIUM	0.01	0.01	U
7440-66-6	ZINC	0.02	0.02	U

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Blanks

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCB3
QC Type: Continuing Calibration

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 3:57:00 PM
Result Units: MG/L

CASNO	Target Analyte	Result	Reporting Limit	Result Qualifier
7429-90-5	ALUMINUM	0.2	0.2	U
7440-36-0	ANTIMONY	0.02	0.02	U
7440-38-2	ARSENIC	0.01	0.01	U
7440-39-3	BARIUM	0.1	0.1	U
7440-41-7	BERYLLIUM	0.005	0.005	U
7440-43-9	CADMIUM	0.005	0.005	U
7440-70-2	CALCIUM	1	1	U
7440-47-3	CHROMIUM	0.01	0.01	U
7440-48-4	COBALT	0.01	0.01	U
7440-50-8	COPPER	0.01	0.01	U
7439-89-6	IRON	0.1	0.1	U
7439-92-1	LEAD	0.003	0.003	U
7439-95-4	MAGNESIUM	1	1	U
7439-96-5	MANGANESE	0.01	0.01	U
7439-98-7	MOLYBDENUM	0.01	0.01	U
7440-02-0	NICKEL	0.02	0.02	U
7440-09-7	POTASSIUM	1	1	U
7782-49-2	SELENIUM	0.005	0.005	U
7440-22-4	SILVER	0.01	0.01	U
7440-23-5	SODIUM	1	1	U
7440-28-0	THALLIUM	0.01	0.01	U
7440-31-5	TIN	0.05	0.05	U
7440-61-1	URANIUM	0.2	0.2	U
7440-62-2	VANADIUM	0.01	0.01	U
7440-66-6	ZINC	0.02	0.02	U

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Blanks

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCB4
QC Type: Continuing Calibration

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 4:21:00 PM
Result Units: MG/L

CASNO	Target Analyte	Result	Reporting Limit	Result Qualifier
7429-90-5	ALUMINUM	0.2	0.2	U
7440-36-0	ANTIMONY	0.02	0.02	U
7440-38-2	ARSENIC	0.01	0.01	U
7440-39-3	BARIUM	0.1	0.1	U
7440-41-7	BERYLLIUM	0.005	0.005	U
7440-43-9	CADMIUM	0.005	0.005	U
7440-70-2	CALCIUM	1	1	U
7440-47-3	CHROMIUM	0.01	0.01	U
7440-48-4	COBALT	0.01	0.01	U
7440-50-8	COPPER	0.01	0.01	U
7439-89-6	IRON	0.1	0.1	U
7439-92-1	LEAD	0.003	0.003	U
7439-95-4	MAGNESIUM	1	1	U
7439-96-5	MANGANESE	0.01	0.01	U
7439-98-7	MOLYBDENUM	0.01	0.01	U
7440-02-0	NICKEL	0.02	0.02	U
7440-09-7	POTASSIUM	1	1	U
7782-49-2	SELENIUM	0.005	0.005	U
7440-22-4	SILVER	0.01	0.01	U
7440-23-5	SODIUM	1	1	U
7440-28-0	THALLIUM	0.01	0.01	U
7440-31-5	TIN	0.05	0.05	U
7440-61-1	URANIUM	0.2	0.2	U
7440-62-2	VANADIUM	0.01	0.01	U
7440-66-6	ZINC	0.02	0.02	U

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Blanks

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCB5
QC Type: Continuing Calibration

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 4:46:00 PM
Result Units: MG/L

CASNO	Target Analyte	Result	Reporting Limit	Result Qualifier
7429-90-5	ALUMINUM	0.2	0.2	U
7440-36-0	ANTIMONY	0.02	0.02	U
7440-38-2	ARSENIC	0.01	0.01	U
7440-39-3	BARIUM	0.1	0.1	U
7440-41-7	BERYLLIUM	0.005	0.005	U
7440-43-9	CADMIUM	0.005	0.005	U
7440-70-2	CALCIUM	1	1	U
7440-47-3	CHROMIUM	0.01	0.01	U
7440-48-4	COBALT	0.01	0.01	U
7440-50-8	COPPER	0.01	0.01	U
7439-89-6	IRON	0.1	0.1	U
7439-92-1	LEAD	0.003	0.003	U
7439-95-4	MAGNESIUM	1	1	U
7439-96-5	MANGANESE	0.01	0.01	U
7439-98-7	MOLYBDENUM	0.01	0.01	U
7440-02-0	NICKEL	0.02	0.02	U
7440-09-7	POTASSIUM	1	1	U
7782-49-2	SELENIUM	0.005	0.005	U
7440-22-4	SILVER	0.01	0.01	U
7440-23-5	SODIUM	1	1	U
7440-28-0	THALLIUM	0.01	0.01	U
7440-31-5	TIN	0.05	0.05	U
7440-61-1	URANIUM	0.2	0.2	U
7440-62-2	VANADIUM	0.01	0.01	U
7440-66-6	ZINC	0.02	0.02	U

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Blanks

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCB6
QC Type: Continuing Calibration

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 5:10:00 PM
Result Units: MG/L

CASNO	Target Analyte	Result	Reporting Limit	Result Qualifier
7429-90-5	ALUMINUM	0.247	0.2	
7440-36-0	ANTIMONY	0.02	0.02	U
7440-38-2	ARSENIC	0.01	0.01	U
7440-39-3	BARIUM	0.1	0.1	U
7440-41-7	BERYLLIUM	0.005	0.005	U
7440-43-9	CADMIUM	0.005	0.005	U
7440-70-2	CALCIUM	1	1	U
7440-47-3	CHROMIUM	0.01	0.01	U
7440-48-4	COBALT	0.01	0.01	U
7440-50-8	COPPER	0.01	0.01	U
7439-89-6	IRON	0.1	0.1	U
7439-92-1	LEAD	0.003	0.003	U
7439-95-4	MAGNESIUM	1	1	U
7439-96-5	MANGANESE	0.01	0.01	U
7439-98-7	MOLYBDENUM	0.01	0.01	U
7440-02-0	NICKEL	0.02	0.02	U
7440-09-7	POTASSIUM	1	1	U
7782-49-2	SELENIUM	0.005	0.005	U
7440-22-4	SILVER	0.01	0.01	U
7440-23-5	SODIUM	1	1	U
7440-28-0	THALLIUM	0.01	0.01	U
7440-31-5	TIN	0.05	0.05	U
7440-61-1	URANIUM	0.2	0.2	U
7440-62-2	VANADIUM	0.01	0.01	U
7440-66-6	ZINC	0.02	0.02	U

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

ICP Interference Check Sample

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Result Units: MG/L

CASNO	Target Analyte	Spike Added		Results		% Rec.
		ICSA1	ICSAB1	ICSA1	ICSAB1	
7429-90-5	ALUMINUM	250	250	263	213	85
7440-36-0	ANTIMONY		0.6		0.585	98
7440-38-2	ARSENIC		0.1		0.102	102
7440-39-3	BARIUM		0.5		0.552	110
7440-41-7	BERYLLIUM		0.5		0.48500	97
7440-43-9	CADMIUM		1		1	100
7440-70-2	CALCIUM	250	250	263	262	105
7440-47-3	CHROMIUM		0.5		0.49200	98
7440-48-4	COBALT		0.5		0.48600	97
7440-50-8	COPPER		0.5		0.551	110
7439-89-6	IRON	100	100	107	107	107
7439-92-1	LEAD		0.05		0.04980	100
7439-95-4	MAGNESIUM	250	250	264	265	106
7439-96-5	MANGANESE		0.5		0.514	103
7439-98-7	MOLYBDENUM		1		0.993	99
7440-02-0	NICKEL		1		0.991	99
7440-09-7	POTASSIUM					
7782-49-2	SELENIUM		0.05		0.0514	103
7440-22-4	SILVER		0.2		0.20200	101
7440-23-5	SODIUM					
7440-28-0	THALLIUM		0.1		0.10700	107
7440-31-5	TIN		1		1.03	103
7440-61-1	URANIUM		10		10.8000	108
7440-62-2	VANADIUM		0.5		0.49500	99
7440-66-6	ZINC		1		0.92000	92

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

ICP Interference Check Sample

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Result Units: MG/L

CASNO	Target Analyte	Spike Added		Results		% Rec.
		ICSA2	ICSAB2	ICSA2	ICSAB2	
7429-90-5	ALUMINUM	250	250	260	209	84
7440-36-0	ANTIMONY		0.6		0.58300	97
7440-38-2	ARSENIC		0.1		0.10300	103
7440-39-3	BARIUM		0.5		0.538	108
7440-41-7	BERYLLIUM		0.5		0.47900	96
7440-43-9	CADMIUM		1		1.01	101
7440-70-2	CALCIUM	250	250	259	262	105
7440-47-3	CHROMIUM		0.5		0.489	98
7440-48-4	COBALT		0.5		0.482	96
7440-50-8	COPPER		0.5		0.54400	109
7439-89-6	IRON	100	100	104	105	105
7439-92-1	LEAD		0.05		0.05160	103
7439-95-4	MAGNESIUM	250	250	262	263	105
7439-96-5	MANGANESE		0.5		0.506	101
7439-98-7	MOLYBDENUM		1		0.982	98
7440-02-0	NICKEL		1		0.982	98
7440-09-7	POTASSIUM					
7782-49-2	SELENIUM		0.05		0.0466	93
7440-22-4	SILVER		0.2		0.203	101
7440-23-5	SODIUM					
7440-28-0	THALLIUM		0.1		0.11200	112
7440-31-5	TIN		1		1.03	103
7440-61-1	URANIUM		10		10.5	105
7440-62-2	VANADIUM		0.5		0.48800	98
7440-66-6	ZINC		1		0.927	93

Data Package ID: *it1201354-1*

Metals Linear Ranges

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Instrument ID: ICPTrace2
Active Date: 03/02/2010
Expiration Date: 05/31/2015

CASNO	Target Analyte	Concentration (ppm)
7429-90-5	ALUMINUM	500
7440-36-0	ANTIMONY	2
7440-38-2	ARSENIC	5
7440-39-3	BARIUM	10
7440-41-7	BERYLLIUM	1
7440-43-9	CADMIUM	5
7440-70-2	CALCIUM	500
7440-47-3	CHROMIUM	10
7440-48-4	COBALT	5
7440-50-8	COPPER	10
7439-89-6	IRON	200
7439-92-1	LEAD	10
7439-95-4	MAGNESIUM	500
7439-96-5	MANGANESE	10
7439-98-7	MOLYBDENUM	10
7440-02-0	NICKEL	10
7440-09-7	POTASSIUM	250
7782-49-2	SELENIUM	5
7440-22-4	SILVER	2
7440-23-5	SODIUM	150
7440-28-0	THALLIUM	5
7440-31-5	TIN	10
7440-61-1	URANIUM	50
7440-62-2	VANADIUM	5
7440-66-6	ZINC	10

ICP Interelement Correction Factors

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Instrument ID: ICPTrace2
Active Date: 1/3/2012
Expiration Date: 1/3/2013

Analyte	Lamda (nm)	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Ni	Th
ALUMINUM																	
ANTIMONY									0.0103504								
ARSENIC																	
BERYLLIUM																	
CADMIUM				0.0068507													
CHROMIUM																	
COBALT					-0.001400												
COPPER																	
LEAD		0.0002559										0.0000304					
MANGANESE																	
SELENIUM												-0.000371					
SILVER																	
THALLIUM												-0.000475			-0.000176		
TIN																	
URANIUM												6.809E-05					
VANADIUM												-0.000159					
ZINC																	

ICP Interelement Correction Factors

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Instrument ID: ICPTrace2
Active Date: 1/3/2012
Expiration Date: 1/3/2013

Analyte	Lamda (nm)	K	Se	Ag	Na	Tl	V	Zn	Sn	Ti	Mo	Li	Sr	B	Si	U	Zr
ALUMINUM							0.0125517				0.0033239					-0.035496	
ANTIMONY											-0.007006						
ARSENIC																	
BERYLLIUM																	
CADMIUM																	
CHROMIUM																0.0005333	
COBALT										0.002105							
COPPER																0.0010734	
LEAD							0.0010513			-0.000532	-0.001821					0.0006768	
MANGANESE																	
SELENIUM																-0.000948	
SILVER																0.0006982	0.0038966
THALLIUM							0.0006359			0.0006156						-0.000582	
TIN										0.0011632							
URANIUM																	
VANADIUM																	
ZINC																	

ICPTrace2 Run Log -- 2/2/2012

Instrument ID: ICPTrace2
File Name: 120202A.
AnalRunID: IT120202-2A1
CalibRefID: IT120202-2A1

Comment	Field ID	Lab ID	DF	Date Analyzed	Time Analyzed
		MIXBHIGH	1	2/2/2012	14:37
		MIXAHIGH	1	2/2/2012	14:39
		MIXCHIGH	1	2/2/2012	14:41
		ICV	1	2/2/2012	15:07
		ICB	1	2/2/2012	15:09
		CRI1	1	2/2/2012	15:12
		ZZZ	1	2/2/2012	15:14
		ICSA1	1	2/2/2012	15:18
		ICSAB1	1	2/2/2012	15:20
		CCV1	1	2/2/2012	15:22
		CCB1	1	2/2/2012	15:24
		CCV2	1	2/2/2012	15:26
		CCB2	1	2/2/2012	15:30
		ZZZ	1	2/2/2012	15:32
		IP120202-2MB	1	2/2/2012	15:36
		IP120202-2LCS	1	2/2/2012	15:38
	JM-54-31-120128	1201354-1	1	2/2/2012	15:40
	JM-54-31-120128	1201354-1DUP	1	2/2/2012	15:42
	JM-54-31-120128	1201354-1SER	5	2/2/2012	15:44
	JM-54-31-120128	1201354-1MS	1	2/2/2012	15:47
	JM-54-31-120128	1201354-1MSD	1	2/2/2012	15:49
	JM-55-31-120128	1201354-2	1	2/2/2012	15:51
	JM-65-31-120128	1201354-3	1	2/2/2012	15:53
		CCV3	1	2/2/2012	15:55
		CCB3	1	2/2/2012	15:57
	JM-66-31-120128	1201354-4	1	2/2/2012	15:59
	JM-70-31-120128	1201354-5	1	2/2/2012	16:01
	JM-70-32-120128	1201354-6	1	2/2/2012	16:03
	JM-73-31-120128	1201354-7	1	2/2/2012	16:05
	JM-77-31-120128	1201354-8	1	2/2/2012	16:07
	JM-82-31-120128	1201354-9	1	2/2/2012	16:09
	JM-84-31-120128	1201354-10	1	2/2/2012	16:11
	JM-88-31-120128	1201354-11	1	2/2/2012	16:13
	JMBKGD-NE-31-120128	1201354-12	1	2/2/2012	16:15
- Fe,Pb,Se,Tl,U,V	JMBKGD-NW-31-120128	1201354-13	1	2/2/2012	16:16

Data Package ID: IT1201354-1

ICPTrace2 Run Log -- 2/2/2012

Instrument ID: ICPTrace2
File Name: 120202A.
AnalRunID: IT120202-2A1
CalibRefID: IT120202-2A1

Comment	Field ID	Lab ID	DF	Date Analyzed	Time Analyzed
		CCV4	1	2/2/2012	16:19
		CCB4	1	2/2/2012	16:21
		EX120201-2MB	1	2/2/2012	16:23
		EX120201-2	1	2/2/2012	16:25
- Na		EX120201-2LCS	1	2/2/2012	16:27
		1201363-11	1	2/2/2012	16:29
		1201363-11DUP	1	2/2/2012	16:31
		1201363-11SER	5	2/2/2012	16:33
- Na		1201363-11MS	1	2/2/2012	16:35
- Na		1201363-11MSD	1	2/2/2012	16:38
		1201363-13	1	2/2/2012	16:40
		1201363-15	1	2/2/2012	16:42
		CCV5	1	2/2/2012	16:44
		CCB5	1	2/2/2012	16:46
		1201363-17	1	2/2/2012	16:48
		1201363-19	1	2/2/2012	16:50
		ZZZ	1	2/2/2012	16:52
+ Ba,Ca,Sb,V,Zn	JM-54-31-120128	1201354-1A	1	2/2/2012	16:58
+ Fe,Pb,Se,Tl,U,V	JMBKGD-NW-31-120128	1201354-13	5	2/2/2012	17:00
		CRI2	1	2/2/2012	17:02
		ICSA2	1	2/2/2012	17:04
		ICSAB2	1	2/2/2012	17:06
		CCV6	1	2/2/2012	17:09
		CCB6	1	2/2/2012	17:10

Data Package ID: IT1201354-1

ICPMS Metals

Method SW6020A
Method Blank

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: IP120202-2MB

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02-Feb-12
Date Analyzed: 03-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-2
Run ID: IM120203-10A1
Cleanup: NONE
Basis: N/A
File Name: 027SMPL_

Sample Aliquot: 1 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7440-61-1	URANIUM	10	13	10		

Data Package ID: *im1201354-1*

ICPMS Metals

Method SW6020A

Laboratory Control Sample

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: IM120202-2LCS

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02/02/2012
Date Analyzed: 02/03/2012
Prep Method: SW 3050B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-2
Run ID: IM120203-10A1
Cleanup: NONE
Basis: N/A
File Name: 028SMPL_

Sample Aliquot: 1 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7440-61-1	URANIUM	1000	990	10		99	80 - 120%

Data Package ID: *im1201354-1*

ICPMS Metals

Method SW6020A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-54-31-120128
LabID: 1201354-1MS

Sample Matrix: SOIL
% Moisture: 12.5
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 03-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-2
Run ID: IM120203-10A1
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 1.018 g
Final Volume: 100 ml
Result Units: UG/KG
File Name: 032SMPL_

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7440-61-1	URANIUM	38000		37100		11.2	1120	-80	75 - 125%

Field ID: JM-54-31-120128
LabID: 1201354-1MSD

Sample Matrix: SOIL
% Moisture: 12.5
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 03-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-2
Run ID: IM120203-10A1
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 1.015 g
Final Volume: 100 ml
Result Units: UG/KG
File Name: 033SMPL_

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7440-61-1	URANIUM	38600		1130	57	11.3	20	4

Data Package ID: *im1201354-1*

ICPMS Metals

Method SW6020

Duplicate Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-54-31-120128
Lab ID: 1201354-1D

Sample Matrix: SOIL
% Moisture: 12.5
Date Collected: 01/28/2012
Date Extracted: 02/02/2012
Date Analyzed: 02/03/2012

Prep Batch: IP120202-2
QCBatchID: IP120202-2-2
Run ID: IM120203-10A1
Cleanup: NONE
Basis: Dry Weight
File Name: 030SMPL_

Sample Aliquot: 1.023 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Sample Result	Samp Qual	Duplicate Result	Dup Qual	Reporting Limit	Dilution Factor	RPD	RPD Limit
7440-61-1	URANIUM	38000		36900		11.2	10	3	20

Data Package ID: *im1201354-1*

ICPMS Metals

Method SW6020

Serial Dilution

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-54-31-120128
Lab ID: 1201354-1L

Run ID: IM120203-10A1
Date Analyzed: 03-Feb-12
Result Units: mg/l

CASNO	Target Analyte	Sample Result	Samp Qual	SD Result	SD Qual	EPA Qualifier	%D
7440-61-1	URANIUM	0.0341		0.0347			2

Data Package ID: *im1201354-1*

Prep Batch ID: IP120202-2

Start Date: 02/02/12
Start Time: 7:00
Prep Analyst: Brent A. Stanfield

End Date: 02/02/12
End Time: 17:00

Concentration Method: NONE
Extract Method: SW3050B
Initial Volume Units: g
Final Volume Units: ml

Batch Created By: bas
Date Created: 02/02/12
Time Created: 7:00
Validated By: bas
Date Validated: 02/02/12
Time Validated: 7:35

Comments:

QC Batch ID: IP120202-2-2

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
IP120202-2	MB	XXXXXX	SOIL	XXXXXX	1	100	NONE	1	1201354
IM120202-2	LCS	XXXXXX	SOIL	XXXXXX	1	100	NONE	1	1201354
1201354-1	MS	JM-54-31-120128	SOIL	1/28/2012	1.018	100	NONE	1	1201354
1201354-1	MSD	JM-54-31-120128	SOIL	1/28/2012	1.015	100	NONE	1	1201354
1201354-1	DUP	JM-54-31-120128	SOIL	1/28/2012	1.023	100	NONE	1	1201354
1201354-1	SMP	JM-54-31-120128	SOIL	1/28/2012	1.027	100	NONE	1	1201354
1201354-10	SMP	JM-84-31-120128	SOIL	1/28/2012	1.022	100	NONE	1	1201354
1201354-11	SMP	JM-88-31-120128	SOIL	1/28/2012	1.007	100	NONE	1	1201354
1201354-12	SMP	JMBKGD-NE-31-1201	SOIL	1/28/2012	1.033	100	NONE	1	1201354
1201354-13	SMP	JMBKGD-NW-31-120	SOIL	1/28/2012	1.014	100	NONE	1	1201354
1201354-2	SMP	JM-55-31-120128	SOIL	1/28/2012	1.041	100	NONE	1	1201354
1201354-3	SMP	JM-65-31-120128	SOIL	1/28/2012	1.001	100	NONE	1	1201354
1201354-4	SMP	JM-66-31-120128	SOIL	1/28/2012	1.041	100	NONE	1	1201354
1201354-5	SMP	JM-70-31-120128	SOIL	1/28/2012	1.034	100	NONE	1	1201354
1201354-6	SMP	JM-70-32-120128	SOIL	1/28/2012	1.004	100	NONE	1	1201354
1201354-7	SMP	JM-73-31-120128	SOIL	1/28/2012	1.031	100	NONE	1	1201354
1201354-8	SMP	JM-77-31-120128	SOIL	1/28/2012	1.012	100	NONE	1	1201354
1201354-9	SMP	JM-82-31-120128	SOIL	1/28/2012	1.031	100	NONE	1	1201354

QC Types

CAR	Carrier reference sample	DUP	Laboratory Duplicate
LCS	Laboratory Control Sample	LCSD	Laboratory Control Sample Duplicat
MB	Method Blank	MS	Laboratory Matrix Spike
MSD	Laboratory Matrix Spike Duplicate	REP	Sample replicate
RVS	Reporting Level Verification Standar	SMP	Field Sample
SYS	Sample Yield Spike		

URANIUM

Method SW6020

Calibration Verifications

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Run ID: IM120203-10A1
Result Units: MG/L

Lab ID	Verification Type	Date Analyzed	Time Analyzed	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
ICV	Initial Calibration	2/3/2012	10:12	0.002	0.00191	0.00001	N/A	96	90 - 110
CCV1	Continuing Calibration	2/3/2012	10:26	0.001	0.000991	0.00001	N/A	99	90 - 110
CCV2	Continuing Calibration	2/3/2012	10:51	0.001	0.00104	0.00001	N/A	104	90 - 110
CCV3	Continuing Calibration	2/3/2012	11:19	0.001	0.00103	0.00001	N/A	103	90 - 110
CCV4	Continuing Calibration	2/3/2012	11:47	0.001	0.00103	0.00001	N/A	103	90 - 110
CCV5	Continuing Calibration	2/3/2012	12:39	0.001	0.00101	0.00001	N/A	101	90 - 110
CCV6	Continuing Calibration	2/3/2012	12:57	0.001	0.00102	0.00001	N/A	102	90 - 110

Data Package ID: *im1201354-1*

URANIUM

Method SW6020

Calibration Blanks

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Run ID: IM120203-10A1
Result Units: MG/L

Lab ID	Verification Type	Date Analyzed	Time Analyzed	Result	Reporting Limit	Flag
ICB	Initial Calibration	2/3/2012	10:14	0.00001	0.00001	U
CCB1	Continuing Calibration	2/3/2012	10:28	0.00001	0.00001	U
CCB2	Continuing Calibration	2/3/2012	10:54	0.00001	0.00001	U
CCB3	Continuing Calibration	2/3/2012	11:21	0.00001	0.00001	U
CCB4	Continuing Calibration	2/3/2012	11:49	0.00001	0.00001	U
CCB5	Continuing Calibration	2/3/2012	12:41	0.00001	0.00001	U
CCB6	Continuing Calibration	2/3/2012	12:59	0.00001	0.00001	U

Data Package ID: *im1201354-1*

ICPMS Metals

Method SW6020

ICP Interference Check Sample

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Run ID: IM120203-10A1
Date Analyzed: 02/03/2012
Result Units: MG/L

CASNO	Target Analyte	Spike Added		Results		% Rec.
		ICSA1	ICSAB1	ICSA1	ICSAB1	
7440-38-2	ARSENIC		0.01		0.01	100
7440-39-3	BARIUM		0.01		0.0105	105
7440-43-9	CADMIUM		0.003		0.00314	105
7440-47-3	CHROMIUM		0.05		0.05090	102
7439-92-1	LEAD		0.005		0.00506	101
7782-49-2	SELENIUM		0.01		0.01030	103
7440-22-4	SILVER		0.001		0.00104	104
7440-61-1	URANIUM		0.001		0.00103	103

Data Package ID: *im1201354-1*

Metals Linear Ranges

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Instrument ID: ICPMS2
Active Date: 04/01/2010
Expiration Date: 04/01/2015

CASNO	Target Analyte	Concentration (ppm)
7429-90-5	ALUMINUM	50
7440-36-0	ANTIMONY	0.3
7440-38-2	ARSENIC	1
7440-39-3	BARIUM	1
7440-41-7	BERYLLIUM	0.5
7440-43-9	CADMIUM	0.3
7440-70-2	CALCIUM	500
7440-47-3	CHROMIUM	5
7440-48-4	COBALT	1
7440-50-8	COPPER	10
7439-89-6	IRON	50
7439-92-1	LEAD	0.5
7439-95-4	MAGNESIUM	100
7439-96-5	MANGANESE	2
7439-98-7	MOLYBDENUM	1
7440-02-0	NICKEL	5
7440-09-7	POTASSIUM	500
7782-49-2	SELENIUM	1
7440-22-4	SILVER	0.1
7440-23-5	SODIUM	1000
7440-28-0	THALLIUM	0.02
7440-31-5	TIN	5
7440-61-1	URANIUM	0.1
7440-62-2	VANADIUM	1
7440-66-6	ZINC	20

ICPMS2 Run Log -- 2/3/2012

Instrument ID: ICPMS2
File Name: 003CALB_
AnalRunID: IM120203-10A1
CalibRefID: IM120203-10A1

Comment	Field ID	Lab ID	DF	Date Analyzed	Time Analyzed
		blank	1	2/3/2012	10:00
		H/1000	1	2/3/2012	10:03
		H/100	1	2/3/2012	10:05
		H/10	1	2/3/2012	10:07
		HIGH	1	2/3/2012	10:10
		ICV	1	2/3/2012	10:12
		ICB	1	2/3/2012	10:14
		CRI1	1	2/3/2012	10:17
		CRI2	1	2/3/2012	10:19
		ICSA1	1	2/3/2012	10:21
		ICSAB1	1	2/3/2012	10:24
		CCV1	1	2/3/2012	10:26
		CCB1	1	2/3/2012	10:28
		EX120201-2MB	10	2/3/2012	10:30
		EXM120201-2	10	2/3/2012	10:33
		EXM120201-2LCS	10	2/3/2012	10:35
		1201363-11	10	2/3/2012	10:37
		1201363-11DUP	10	2/3/2012	10:40
		1201363-11SER	50	2/3/2012	10:42
		1201363-11MS	10	2/3/2012	10:44
		1201363-11MSD	10	2/3/2012	10:47
		1201358-2	50	2/3/2012	10:49
		CCV2	1	2/3/2012	10:51
		CCB2	1	2/3/2012	10:54
		IP120202-2MB	10	2/3/2012	10:56
		IM120202-2LCS	10	2/3/2012	10:58
	JM-54-31-120128	1201354-1	10	2/3/2012	11:01
	JM-54-31-120128	1201354-1DUP	10	2/3/2012	11:03
	JM-54-31-120128	1201354-1SER	50	2/3/2012	11:05
	JM-54-31-120128	1201354-1MS	10	2/3/2012	11:08
	JM-54-31-120128	1201354-1MSD	10	2/3/2012	11:10
		ZZZZZZ	1	2/3/2012	11:12
		ZZZZZZ	1	2/3/2012	11:14
		ZZZZZZ	1	2/3/2012	11:17
		CCV3	1	2/3/2012	11:19

Data Package ID: IM1201354-1

ICPMS2 Run Log -- 2/3/2012

Instrument ID: ICPMS2
File Name: 038SMPL_
AnalRunID: IM120203-10A1
CalibRefID: IM120203-10A1

Comment	Field ID	Lab ID	DF	Date Analyzed	Time Analyzed
		CCB3	1	2/3/2012	11:21
		ZZZZZZ	1	2/3/2012	11:24
		ZZZZZZ	1	2/3/2012	11:26
		ZZZZZZ	1	2/3/2012	11:28
		ZZZZZZ	1	2/3/2012	11:31
		ZZZZZZ	1	2/3/2012	11:33
		ZZZZZZ	1	2/3/2012	11:35
		ZZZZZZ	1	2/3/2012	11:38
		ZZZZZZ	1	2/3/2012	11:40
		ZZZZZZ	1	2/3/2012	11:42
- As,Se		1201358-1	50	2/3/2012	11:45
		CCV4	1	2/3/2012	11:47
		CCB4	1	2/3/2012	11:49
	JMBKGD-NE-31-120128	1201354-12	10	2/3/2012	12:16
	JMBKGD-NW-31-120128	1201354-13	10	2/3/2012	12:18
	JM-55-31-120128	1201354-2	100	2/3/2012	12:20
	JM-65-31-120128	1201354-3	100	2/3/2012	12:23
	JM-66-31-120128	1201354-4	10	2/3/2012	12:25
	JM-70-31-120128	1201354-5	100	2/3/2012	12:27
	JM-70-32-120128	1201354-6	100	2/3/2012	12:30
	JM-73-31-120128	1201354-7	100	2/3/2012	12:32
	JM-77-31-120128	1201354-8	100	2/3/2012	12:34
	JM-82-31-120128	1201354-9	100	2/3/2012	12:37
		CCV5	1	2/3/2012	12:39
		CCB5	1	2/3/2012	12:41
	JM-84-31-120128	1201354-10	10	2/3/2012	12:43
	JM-88-31-120128	1201354-11	100	2/3/2012	12:46
Ag,Ba,Cd,Cr,Pb,U		1201358-1	50	2/3/2012	12:55
		CCV6	1	2/3/2012	12:57
		CCB6	1	2/3/2012	12:59

Data Package ID: IM1201354-1

Mercury

Method SW7471A
Method Blank

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: HG120206-1MB

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 06-Feb-12
Date Analyzed: 07-Feb-12
Prep Method: METHOD

Prep Batch: HG120206-1
QCBatchID: HG120206-1-1
Run ID: HG120207-1A1
Cleanup: NONE
Basis: N/A
File Name: HG120206-1

Sample Aliquot: 0.6 g
Final Volume: 100 g
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7439-97-6	MERCURY	1	0.033	0.033	U	

Data Package ID: *hg1201354-1*

Mercury

Method SW7471A

Laboratory Control Sample

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: HG120206-1LCS

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02/06/2012
Date Analyzed: 02/07/2012
Prep Method: METHOD

Prep Batch: HG120206-1
QCBatchID: HG120206-1-1
Run ID: HG120207-1A1
Cleanup: NONE
Basis: N/A
File Name: HG120206-1

Sample Aliquot: 0.6 g
Final Volume: 100 g
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7439-97-6	MERCURY	0.167	0.168	0.0333		101	80 - 120%

Data Package ID: *hg1201354-1*

Mercury

Method SW7471A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JMBKGD-NW-31-12012
LabID: 1201354-13MS

Sample Matrix: SOIL
% Moisture: 7.4
Date Collected: 28-Jan-12
Date Extracted: 06-Feb-12
Date Analyzed: 07-Feb-12
Prep Method: METHOD

Prep Batch: HG120206-1
QCBatchID: HG120206-1-1
Run ID: HG120207-1A1
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 0.604 g
Final Volume: 100 g
Result Units: MG/KG
File Name: HG120206-1

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7439-97-6	MERCURY	0.036	U	0.39		0.0358	0.358	109	80 - 120%

Field ID: JMBKGD-NW-31-12012
LabID: 1201354-13MSD

Sample Matrix: SOIL
% Moisture: 7.4
Date Collected: 28-Jan-12
Date Extracted: 06-Feb-12
Date Analyzed: 07-Feb-12
Prep Method: METHOD

Prep Batch: HG120206-1
QCBatchID: HG120206-1-1
Run ID: HG120207-1A1
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 0.607 g
Final Volume: 100 g
Result Units: MG/KG
File Name: HG120206-1

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7439-97-6	MERCURY	0.39		0.356	110	0.0356	20	0

Data Package ID: *hg1201354-1*

Mercury

Method SW7471

Duplicate Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JMBKGD-NW-31-12012
Lab ID: 1201354-13D

Sample Matrix: SOIL
% Moisture: 7.4
Date Collected: 01/28/2012
Date Extracted: 02/06/2012
Date Analyzed: 02/07/2012

Prep Batch: HG120206-1
QCBatchID: HG120206-1-1
Run ID: HG120207-1A1
Cleanup: NONE
Basis: Dry Weight
File Name: HG120206-1

Sample Aliquot: 0.616 g
Final Volume: 100 g
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Sample Result	Samp Qual	Duplicate Result	Dup Qual	Reporting Limit	Dilution Factor	RPD	RPD Limit
7439-97-6	MERCURY	0.036	U	0.0351	U	0.0351	1		20

Data Package ID: *hg1201354-1*

Prep Batch ID: HG120206-1

Start Date: 02/06/12
Start Time: 8:32
Prep Analyst: Sheri Lafferty

End Date: 02/06/12
End Time: 8:32

Concentration Method: NONE
Extract Method: METHOD
Initial Volume Units: g
Final Volume Units: g

Batch Created By: SKL
Date Created: 02/06/12
Time Created: 8:32
Validated By: SKL
Date Validated: 02/07/12
Time Validated: 7:48

Comments:

QC Batch ID: HG120206-1-1

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
HG120206-1	MB	XXXXXX	SOIL	XXXXXX	0.6	100	NONE	1	1201354
HG120206-1	LCS	XXXXXX	SOIL	XXXXXX	0.6	100	NONE	1	1201354
1201354-13	MS	JMBKGD-NW-31-120	SOIL	1/28/2012	0.604	100	NONE	1	1201354
1201354-13	MSD	JMBKGD-NW-31-120	SOIL	1/28/2012	0.607	100	NONE	1	1201354
1201354-13	DUP	JMBKGD-NW-31-120	SOIL	1/28/2012	0.616	100	NONE	1	1201354
1201354-1	SMP	JM-54-31-120128	SOIL	1/28/2012	0.614	100	NONE	1	1201354
1201354-10	SMP	JM-84-31-120128	SOIL	1/28/2012	0.61	100	NONE	1	1201354
1201354-11	SMP	JM-88-31-120128	SOIL	1/28/2012	0.602	100	NONE	1	1201354
1201354-12	SMP	JMBKGD-NE-31-1201	SOIL	1/28/2012	0.614	100	NONE	1	1201354
1201354-13	SMP	JMBKGD-NW-31-120	SOIL	1/28/2012	0.608	100	NONE	1	1201354
1201354-2	SMP	JM-55-31-120128	SOIL	1/28/2012	0.616	100	NONE	1	1201354
1201354-3	SMP	JM-65-31-120128	SOIL	1/28/2012	0.603	100	NONE	1	1201354
1201354-4	SMP	JM-66-31-120128	SOIL	1/28/2012	0.613	100	NONE	1	1201354
1201354-5	SMP	JM-70-31-120128	SOIL	1/28/2012	0.605	100	NONE	1	1201354
1201354-6	SMP	JM-70-32-120128	SOIL	1/28/2012	0.6	100	NONE	1	1201354
1201354-7	SMP	JM-73-31-120128	SOIL	1/28/2012	0.615	100	NONE	1	1201354
1201354-8	SMP	JM-77-31-120128	SOIL	1/28/2012	0.604	100	NONE	1	1201354
1201354-9	SMP	JM-82-31-120128	SOIL	1/28/2012	0.608	100	NONE	1	1201354

QC Types

CAR	Carrier reference sample	DUP	Laboratory Duplicate
LCS	Laboratory Control Sample	LCSD	Laboratory Control Sample Duplicat
MB	Method Blank	MS	Laboratory Matrix Spike
MSD	Laboratory Matrix Spike Duplicate	REP	Sample replicate
RVS	Reporting Level Verification Standar	SMP	Field Sample
SYS	Sample Yield Spike		

MERCURY

Method SW7471

Calibration Verifications

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Run ID: HG120207-1A1
Result Units: MG/L

Lab ID	Verification Type	Date Analyzed	Time Analyzed	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
ICV	Initial Calibration	2/7/2012	10:45	0.001	0.00106	0.0002	N/A	106	90 - 110
CCV1	Continuing Calibration	2/7/2012	11:11	0.002	0.00199	0.0002	N/A	99	80 - 120
CCV2	Continuing Calibration	2/7/2012	11:37	0.002	0.00206	0.0002	N/A	103	80 - 120
CCV3	Continuing Calibration	2/7/2012	11:44	0.002	0.00208	0.0002	N/A	104	80 - 120

Data Package ID: *hg1201354-1*

MERCURY

Method SW7471

Calibration Blanks

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Run ID: HG120207-1A1
Result Units: MG/L

Lab ID	Verification Type	Date Analyzed	Time Analyzed	Result	Reporting Limit	Flag
ICB	Initial Calibration	2/7/2012	10:48	0.0002	0.0002	U
CCB1	Continuing Calibration	2/7/2012	11:14	0.0002	0.0002	U
CCB2	Continuing Calibration	2/7/2012	11:39	0.0002	0.0002	U
CCB3	Continuing Calibration	2/7/2012	11:46	0.0002	0.0002	U

Data Package ID: *hg1201354-1*

Metals Linear Ranges

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Instrument ID: CETAC7500
Active Date: 07/19/2010
Expiration Date: 10/17/2020

CASNO	Target Analyte	Concentration (ppm)
7439-97-6	MERCURY	0.01

Mercury Run Log -- 2/7/2012

Instrument ID: CETAC7500
File Name: HG120206-1
AnalRunID: HG120207-1A1
CalibRefID: HG120207-1A1

Comment	Field ID	Lab ID	DF	Date Analyzed	Time Analyzed
		STD0	1	2/7/2012	10:30
		STD1	1	2/7/2012	10:32
		STD2	1	2/7/2012	10:35
		STD3	1	2/7/2012	10:37
		STD4	1	2/7/2012	10:39
		STD5	1	2/7/2012	10:41
		STD6	1	2/7/2012	10:43
		ICV	1	2/7/2012	10:45
		ICB	1	2/7/2012	10:48
		CRA1	1	2/7/2012	10:50
		HG120206-1MB	1	2/7/2012	10:52
		HG120206-1LCS	1	2/7/2012	10:54
	JM-54-31-120128	1201354-1	1	2/7/2012	10:56
	JM-55-31-120128	1201354-2	1	2/7/2012	10:58
	JM-65-31-120128	1201354-3	1	2/7/2012	11:00
	JM-66-31-120128	1201354-4	1	2/7/2012	11:02
	JM-70-31-120128	1201354-5	1	2/7/2012	11:05
	JM-70-32-120128	1201354-6	1	2/7/2012	11:07
	JM-73-31-120128	1201354-7	1	2/7/2012	11:09
		CCV1	1	2/7/2012	11:11
		CCB1	1	2/7/2012	11:14
	JM-77-31-120128	1201354-8	1	2/7/2012	11:16
	JM-82-31-120128	1201354-9	1	2/7/2012	11:18
	JM-84-31-120128	1201354-10	1	2/7/2012	11:20
	JM-88-31-120128	1201354-11	1	2/7/2012	11:22
	JMBKGD-NE-31-120128	1201354-12	1	2/7/2012	11:24
	JMBKGD-NW-31-120128	1201354-13	1	2/7/2012	11:26
	JMBKGD-NW-31-120128	1201354-13DUP	1	2/7/2012	11:29
		1201354-13L	5	2/7/2012	11:31
	JMBKGD-NW-31-120128	1201354-13MS	1	2/7/2012	11:33
	JMBKGD-NW-31-120128	1201354-13MSD	1	2/7/2012	11:35
		CCV2	1	2/7/2012	11:37
		CCB2	1	2/7/2012	11:39
		CRA2	1	2/7/2012	11:41
		CCV3	1	2/7/2012	11:44

Data Package ID: HG1201354-1

Mercury Run Log -- 2/7/2012

Instrument ID: CETAC7500
File Name: HG120206-1
AnalRunID: HG120207-1A1
CalibRefID: HG120207-1A1

Comment	Field ID	Lab ID	DF	Date Analyzed	Time Analyzed
		CCB3	1	2/7/2012	11:46

Data Package ID: HG1201354-1

Raw Data

HEADER INFORMATION FOR ANALYTICAL SEQUENCE 120202A
Analyst: Michael Lundgreen

STANDARD SOLUTION CODES

Stock A (ST111115-1) Exp.6-30-2012

Element		ug/ml
Al, Ca, Mg		1000
K		500
Na		300
Fe		400
Li		20
Standard	Dilution	Procedure
A1	1/2 of Stock A	5ml of Stock A to 10ml final volume.
A2	1/2.5 of Stock A	2ml of Stock A to a 5ml final volume.
A3	1/5 of Stock A	1ml of Stock A to a 5ml final volume.
A4	1/10 of A1	1ml of Standard A1 up to a 10ml final volume.
A5	1/10 of A4	1ml of Standard A4 up to a 10ml final volume.

Stock B (ST100625-8) Exp. 2-28-15

Element	ug/ml
P, Si	100
B, Ba, Cr, Cu, Mn, Mo, Ni, Pb, Sn, Sr, Ti ,Zn	20
As, Cd, Co, Se, Tl, V	10
Sb	4
Be	2

Stock Ag- 1000 ug/ml (ST100407-4) Exp. 2-28-15
Stock Th – 1000 ug/ml (ST100407-5) Exp. 2-28-15

The following dilutions of Stock Ag and Stock Th are made to provide the daily calibration Standards.

Standard	Dilution	Procedure
B1	1/2 of Stock B 1/500 Ag and 1/500 Th	5ml of Stock B, 0.02ml of Stock Ag and 0.02ml of Stock Th up to a 10ml final volume.
B2	1/10 of B1	1.0ml of Standard B1 up to a 10ml final volume.
B3	1/10 of B2	1.0ml of Standard B2 up to a 10ml final volume.

Stock C (ST100625-9) Exp. 6-30-15

Element		ug/ml
S, U		100
Bi, Zr		10
Standard	Dilution	Procedure
C1	1/2 of Stock C	5ml of Stock C up to a 10ml final volume.
C2	1/10 of C1	1.0ml of Standard C1 up to a 10ml final volume.
C3	1/10 of C2	1.0ml of Standard C2 up to a 10ml final volume.

RL STD (Reporting Limit Standard) Intermediate.
(ST100301-54) Exp. 2-28-15

Element	ug/ml
K, Na	500
Ca, Mg	200
Al, U	100
B, Fe, P, S, Si	50
Li, Mo, Sn, Sr, Ti	10
Sb	8
Ni, As, Bi, Se, Tl, Zn, Zr	5
Pb	3
Ag, Ba, Co, Cr, Cu, Mn, V, Th	2
Be, Cd	1

RL STD (working standard) made daily by diluting the intermediate above 1000 fold. This working standard has concentration levels at the normal ALS-FC reporting limits for all elements except Ca, Mg and Na, K which are at 0.2ppm and 0.5ppm; this is below the normal ALS-FC reporting limit.

RL2 (working standard) made daily by diluting the intermediate above 333 fold.

Blank Solution

Double D.I. water, 3% HNO_3 and 5%HCl
Used for Std. Blank, ICB and CCB

CCV (ST111116-2) Exp. 6-20-12

Element	ug/ml
Al, Ca, Mg, K, Na	50
Fe	20
U, P, S, Si	5
B, Ba, Cr, Cu, Mn, Mo, Ni, Pb, Se, Sn, Zn, Zr	1
As, Be, Bi, Cd, Co, Li, Sb, Sr, Ti, Tl, V	0.5
Ag, Th	0.2

ICV (ST111116-2) Exp. 6-20-12
Prepared daily by diluting the CCV (described above) ½.
The 1/2 dilution is made by diluting 5ml of the CCV to a 10ml final volume.
The resulting concentrations are:

Element	ug/ml
Al, Ca, Mg, K, Na	25
Fe	10
U, P, S, Si	2.5
B, Ba, Cr, Cu, Mn, Mo, Ni, Pb, Se, Sn, Zn, Zr	0.5
As, Be, Bi, Cd, Co, Li, Sb, Sr, Ti, Tl, V	0.25
Ag, Th	0.1

CRI (ST110105-13) Exp. 6-20-12
Made By diluting
1.0ml of CRI Stock (ST110105-4) Exp. 6-20-12
to a 100ml final volume.

Element	ug/ml
Ca, Mg, K, Na	5.0
Al, B, Ba	0.4
Fe, U, P, S	0.2
Sb	0.12
Co, Si,, Sn, V, Th	0.1
Ni	0.08
Cu, Bi, Zr	0.05
Zn	0.04
Mn	0.03
Ag, Cr, Li, Mo, Sr, Ti, Tl	0.02
Be, Cd, As, Se,	0.01
Pb	0.006

ICSA (ST110105-7) Exp. 6-20-12

Element	ug/ml
Ca, Mg, Al	250
Fe	100

ICSAB (ST110105-8) Exp. 6-20-12

Element	ug/ml
Ca, Mg, Al	250
Fe	100
U	10

Sb	0.6
Ba, Be, Co, V, Cr, Cu, Mn, Bi, Zr	0.5
Ag	0.2
As, Tl	0.1
Se, Pb, Th	0.05

Pipette ID Numbers

1.0ml to 5.0ml --- M-55
0.1ml to 1.0ml --- M-61
0.01ml to 0.1ml --- M-57

Acid Lot Numbers

HCl – J35042
HNO_3 – J41037

Inter Element Correction Information

The following table summarizes spectral interferences that have been identified and for which IEC's are used. If a sample contains a concentration of an interfering element that exceeds the upper analytical range, and an affected element is being determined, it is necessary to dilute the sample to bring the interfering element into analytical range.

Interfering Element (ug/ml)	Affected Element
Al (500)	Pb
Mg (500)	Th
Fe (200)	Se, Tl, V, Pb, U
Si (50)	Zr
U (50)	Al, Cr, Cu, Bi, Pb, Mg, Se, Ag, Tl, Si
Ba (10)	Co
Cr (10)	Sb
Cu (10)	Bi
Mn (10)	Tl
Mo (10)	Al, Si, Pb,, Sb
Ti (10)	Co, Bi, Si, Sn, Tl, Pb, Zr
As (5)	Cd
V (5)	Al, Be, Tl
Zr (5)	Ag

The following table lists element concentrations (ug/ml) that no significant spectral interferences have been observed.

Element	Concentration	Element	Concentration	Element	Concentration
K	500	Se	10		
Na	500	Pb	10	Li	5
Ca	500	Zn	10	Cd	5
P	50	Sr	10	Co	5
S	50	Sn	10	Ag	2
Ni	10	Bi	5	Sb	2
B	10	Tl	5	Be	1

2X – Dilution made by diluting 2.5ml of sample up to a 5ml final volume.
3X - Dilution made by diluting 2.0ml of sample up to a 6ml final volume.
4X - Dilution made by diluting 2.0ml of sample up to a 8ml final volume.
5X - Dilution made by diluting 1.0ml of sample to a 5ml final volume.
10X - Dilution made by diluting 0.5ml of sample to a 5ml final volume.
20X – Dilution made by diluting 0.25ml of sample to a 5ml final volume.
25X – Dilution made by diluting 0.2ml of sample to a 5ml final volume.

100X – Dilution made by diluting 0.05ml of sample to a 5ml final volume.
500X – Dilution made by diluting 0.02ml of sample to a 10ml final volume.
1000X – Dilution made by diluting a 10X dilution 100X.

Analytical Spikes

1201354-1 was post spiked for all Sb, Ba, Ca, V and Zn by spiking 0.1mL ST110916-7, 0.1mL ST111116-1 onto 4.8mL sample, 5.0mL final volume.

Comments

1. Please see run log and work orders for elements of interest.

Daily Maintenance

1. Check/ Change Peristaltic pump tubing.
2. Check the torch for deposits, clean if necessary.
3. Check/ Empty drain water.

Daily Maintenance done by MTL.

Monthly Maintenance

1. Check/Clean nebulizer and spray chamber.
2. Clean air filters
3. Check/Clean entrance slit.
4. Fill water recirculating reservoir.

Monthly maintenance done by: MTL 01-09-2012.

Major problems / adjustments / repairs recorded in the ICP Maintenance Log (3716).

ICPTrace2 Run Log -- 2/2/2012

Instrument ID: ICPTrace2
File Name: 120202A.
AnalRunID: IT120202-2A1
CalibRefID: IT120202-2A1

Comment	Inst Sample Name	Lab ID	DF	Date Analyzed	Time Analyzed
	MIXBHIGH	MIXBHIGH	1	2/2/2012	14:37
	MIXAHIGH	MIXAHIGH	1	2/2/2012	14:39
	MIXCHIGH	MIXCHIGH	1	2/2/2012	14:41
	ICV	ICV	1	2/2/2012	15:07
	ICB	ICB	1	2/2/2012	15:09
	CRI	CRI1	1	2/2/2012	15:12
	ZZZ	ZZZ	1	2/2/2012	15:14
	ICSA	ICSA1	1	2/2/2012	15:18
	ICSAB	ICSAB1	1	2/2/2012	15:20
	CCV	CCV1	1	2/2/2012	15:22
	CCB	CCB1	1	2/2/2012	15:24
	CCV	CCV2	1	2/2/2012	15:26
	CCB	CCB2	1	2/2/2012	15:30
	ZZZ	ZZZ	1	2/2/2012	15:32
	IP120202-2MB	IP120202-2MB	1	2/2/2012	15:36
	IP120202-2LCS	IP120202-2LCS	1	2/2/2012	15:38
	1201354-1	1201354-1	1	2/2/2012	15:40
	1201354-1D	1201354-1DUP	1	2/2/2012	15:42
	1201354-1L 5X	1201354-1SER	5	2/2/2012	15:44
	1201354-1MS	1201354-1MS	1	2/2/2012	15:47
	1201354-1MSD	1201354-1MSD	1	2/2/2012	15:49
	1201354-2	1201354-2	1	2/2/2012	15:51
	1201354-3	1201354-3	1	2/2/2012	15:53
	CCV	CCV3	1	2/2/2012	15:55
	CCB	CCB3	1	2/2/2012	15:57
	1201354-4	1201354-4	1	2/2/2012	15:59
	1201354-5	1201354-5	1	2/2/2012	16:01
	1201354-6	1201354-6	1	2/2/2012	16:03
	1201354-7	1201354-7	1	2/2/2012	16:05
	1201354-8	1201354-8	1	2/2/2012	16:07
	1201354-9	1201354-9	1	2/2/2012	16:09
	1201354-10	1201354-10	1	2/2/2012	16:11
	1201354-11	1201354-11	1	2/2/2012	16:13
	1201354-12	1201354-12	1	2/2/2012	16:15
- Fe,Pb,Se,Tl,U,V	1201354-13	1201354-13	1	2/2/2012	16:16

Data Package ID:

ALS Environmental -- FC
LIMS Version: 6.560

Date Printed: Thursday, February 02, 2012

#Name?

ICPTrace2 Run Log -- 2/2/2012

Instrument ID: ICPTrace2
File Name: 120202A.
AnalRunID: IT120202-2A1
CalibRefID: IT120202-2A1

Comment	Inst Sample Name	Lab ID	DF	Date Analyzed	Time Analyzed
	CCV	CCV4	1	2/2/2012	16:19
	CCB	CCB4	1	2/2/2012	16:21
	EX120201-2MB	EX120201-2MB	1	2/2/2012	16:23
	EX120201-2RVS	EX120201-2	1	2/2/2012	16:25
- Na	EX120201-2LCS	EX120201-2LCS	1	2/2/2012	16:27
	1201363-11	1201363-11	1	2/2/2012	16:29
	1201363-11D	1201363-11DUP	1	2/2/2012	16:31
	1201363-11L 5X	1201363-11SER	5	2/2/2012	16:33
- Na	1201363-11MS	1201363-11MS	1	2/2/2012	16:35
- Na	1201363-11MSD	1201363-11MSD	1	2/2/2012	16:38
	1201363-13	1201363-13	1	2/2/2012	16:40
	1201363-15	1201363-15	1	2/2/2012	16:42
	CCV	CCV5	1	2/2/2012	16:44
	CCB	CCB5	1	2/2/2012	16:46
	1201363-17	1201363-17	1	2/2/2012	16:48
	1201363-19	1201363-19	1	2/2/2012	16:50
	ZZZ	ZZZ	1	2/2/2012	16:52
+ Ba,Ca,Sb,V,Zn	1201354-1A	1201354-1A	1	2/2/2012	16:58
+ Fe,Pb,Se,Tl,U,V	1201354-13 5X	1201354-13	5	2/2/2012	17:00
	CRI	CRI2	1	2/2/2012	17:02
	ICSA	ICSA2	1	2/2/2012	17:04
	ICSAB	ICSAB2	1	2/2/2012	17:06
	CCV	CCV6	1	2/2/2012	17:09
	CCB	CCB6	1	2/2/2012	17:10

Data Package ID:

Sample Id1	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu
MIXBHIGH	1.97893	0.14513	4.93852	9.90246	9.79854	0.97659	0.01168	-0.07917	4.86593	4.88105	9.74914	9.91932
MIXAHIGH	0.00054	498.45885	-0.00069	0.00408	0.00002	0.00080	0.00992	496.98492	-0.00033	0.00047	0.00188	-0.00914
MIXCHIGH	L-0.01708	0.88338	-0.00768	0.00604	-0.00151	0.00338	H5.06332	-0.06714	-0.00142	0.00409	-0.00949	L-0.02929
ICV	0.10395	25.45605	0.25898	0.49657	0.52849	0.25019	0.26304	25.08494	0.25348	0.24919	0.51015	0.51211
ICB	-0.00075	0.06703	-0.00174	-0.00642	-0.00085	-0.00026	-0.00944	-0.09139	-0.00082	-0.00076	-0.00110	-0.00312
CRI	0.01983	0.50031	0.00592	0.39777	0.41268	0.01170	0.04537	5.12590	0.01151	0.10126	0.02158	0.04745
ZZZ	-0.00122	262.45901	0.00004	-0.00716	-0.00085	0.00039	0.00233	260.73861	-0.00037	0.00039	-0.00121	-0.00666
ICSA	-0.00004	262.69471	0.00009	-0.00665	-0.00054	0.00049	-0.00208	262.88254	0.00007	0.00101	-0.00082	-0.00577
ICSAB	0.20190	212.65836	0.10176	1.01811	0.55218	0.48457	0.54482	262.05421	1.00190	0.48563	0.49214	0.55122
CCV	0.20828	51.62534	0.51697	0.99616	1.06520	0.48841	0.52814	50.49756	0.50741	0.49366	1.01075	1.04176
CCB	-0.00019	0.10845	-0.00546	-0.00583	-0.00057	-0.00007	-0.00804	-0.05529	-0.00022	-0.00060	0.00003	-0.00265
CCV	0.20899	51.50836	0.51264	0.98842	1.06226	0.48578	0.52882	50.16837	0.50502	0.49238	1.00628	1.03562
CCB	-0.00066	0.11335	-0.00191	-0.00554	-0.00064	0.00000	-0.00071	-0.05360	-0.00038	-0.00122	0.00022	-0.00241
ZZZ	0.00008	0.07695	-0.00540	-0.00665	-0.00067	-0.00031	-0.00501	-0.07484	-0.00022	-0.00216	-0.00044	-0.00130
IP120202-2MB	-0.00114	0.07859	-0.00113	-0.00372	-0.00085	-0.00029	-0.00804	-0.07108	-0.00025	-0.00155	-0.00083	-0.00153
IP120202-2LCS	0.09343	2.17815	1.90412	0.46055	2.07984	0.04742	-0.00737	37.15536	0.04972	0.47559	0.19461	0.25712
1201354-1	-0.00214	59.68540	0.05881	0.51640	3.00603	0.00472	-0.00245	86.18621	0.00055	0.03531	0.04517	0.06649
1201354-1D	-0.00096	55.38178	0.05354	0.16515	1.38006	0.00441	-0.00251	72.48209	0.00088	0.03245	0.04213	0.06083
1201354-1L 5X	-0.00114	11.57762	0.01314	0.08247	0.51227	0.00080	-0.00176	17.12909	-0.00071	0.00620	0.00854	0.00962
1201354-1MS	0.09575	88.95425	1.97393	0.37462	3.37275	0.05360	0.00698	111.61500	0.05245	0.51779	0.25688	0.33664
1201354-1MSD	0.09669	91.20298	1.97349	0.37203	3.44656	0.05345	-0.00378	116.34026	0.05210	0.51563	0.25709	0.34045
1201354-2	-0.00173	41.89574	0.09327	0.00715	0.89966	0.00364	-0.00465	103.76504	0.00023	0.02578	0.02817	0.04780
1201354-3	-0.00136	37.26261	0.10159	0.00833	1.08548	0.00370	-0.00286	97.26111	0.00056	0.01990	0.02432	0.06035
CCV	0.20970	51.75839	0.51797	1.00038	1.07279	0.48573	0.53445	50.35484	0.50773	0.49290	1.00646	1.05086
CCB	-0.00045	0.15194	-0.00068	-0.00235	-0.00012	0.00004	-0.00735	-0.04514	-0.00032	-0.00109	-0.00034	-0.00275
1201354-4	-0.00112	29.38481	0.03816	0.00896	0.58394	0.00258	-0.00016	109.84791	0.00021	0.03253	0.02229	0.02808
1201354-5	-0.00168	36.16084	0.12019	0.01074	1.53983	0.00349	-0.00416	85.58398	0.00069	0.02539	0.03172	0.04708
1201354-6	-0.00093	34.02753	0.05220	0.00900	1.49344	0.00302	-0.00141	124.83243	0.00020	0.02627	0.02604	0.04003
1201354-7	-0.00061	40.02791	0.07790	0.00985	1.17901	0.00338	0.00008	296.90769	0.00060	0.02983	0.03338	0.04832
1201354-8	-0.00172	51.88546	0.06896	0.01673	0.72199	0.00480	-0.00204	80.24279	0.00037	0.04656	0.04664	0.07871
1201354-9	-0.00202	43.99332	0.09638	0.00981	0.73184	0.00398	-0.00657	149.69363	0.00021	0.02992	0.03514	0.04580
1201354-10	-0.00186	66.99448	0.04860	0.01765	0.77472	0.00572	0.00134	136.54269	0.00064	0.05905	0.06213	0.11146
1201354-11	-0.00123	47.67139	0.16730	0.01003	0.73641	0.00433	-0.00358	72.07532	0.00064	0.03859	0.03419	0.07304
1201354-12	-0.00075	27.64569	0.01691	0.00689	0.47093	0.00245	0.00063	9.95291	0.00039	0.02058	0.03252	0.03245
1201354-13	-0.00140	57.38864	0.06569	0.01436	0.98240	0.00602	0.00894	43.22886	0.00089	0.06542	0.06991	0.09269
CCV	0.21214	52.15701	0.52957	1.00960	1.08041	0.48967	0.53811	50.41700	0.50851	0.49459	1.00907	1.06340
CCB	-0.00024	0.15675	-0.00124	-0.00257	-0.00047	0.00009	-0.00757	-0.05191	-0.00059	-0.00068	0.00067	-0.00279
EX120201-2MB	-0.00029	0.11454	-0.00157	0.00767	-0.00005	-0.00007	-0.01258	-0.06582	-0.00080	-0.00146	-0.00115	-0.00368
EX120201-2RVS	0.00979	1.07935	0.04482	0.04490	0.04989	0.00949	0.08959	4.71540	0.01918	0.01786	0.04830	0.04655
EX120201-2LCS	0.09835	2.36153	1.98087	0.49362	2.14647	0.04827	-0.00571	38.53287	0.05181	0.48814	0.19978	0.26726
1201363-11	-0.00065	1.81317	-0.00052	0.00963	0.08636	0.00003	-0.00770	21.90140	-0.00028	0.00101	0.00094	-0.00143
1201363-11D	-0.00011	1.83915	-0.00307	0.01055	0.08748	0.00004	-0.00525	22.16942	-0.00013	0.00097	0.00093	-0.00151
1201363-11L 5X	-0.00065	0.40095	0.00231	-0.00098	0.01587	-0.00015	-0.00255	4.33366	-0.00035	-0.00060	-0.00003	-0.00349
1201363-11MS	0.09848	4.77362	1.96711	0.49754	2.20641	0.04828	-0.00653	60.92967	0.05192	0.48830	0.19964	0.26539
1201363-11MSD	0.09990	4.86229	1.99224	0.50331	2.22266	0.04895	-0.00254	61.49041	0.05231	0.49354	0.20173	0.26919
1201363-13	-0.00078	1.44678	-0.00196	0.01288	0.08751	0.00001	-0.00319	20.85125	-0.00038	0.00125	0.00029	-0.00166
1201363-15	-0.00029	1.45821	0.00037	0.01373	0.09093	0.00004	-0.00713	23.40378	0.00003	0.00235	0.00031	-0.00071
CCV	0.21137	51.72776	0.52896	1.00130	1.06251	0.49108	0.53234	50.90274	0.51250	0.49738	1.01561	1.04638
CCB	-0.00035	0.15358	-0.00168	-0.00246	-0.00012	0.00010	-0.00513	-0.04138	-0.00033	-0.00035	0.00027	-0.00337
1201363-17	-0.00019	1.48104	0.00143	0.00822	0.08532	0.00015	-0.00772	19.14651	-0.00028	0.00170	0.00065	-0.00214

Sample Id1	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu
1201363-19	-0.00112	1.90664	0.00098	0.00796	0.10305	0.00021	-0.01048	22.21972	0.00001	0.00169	0.00056	-0.00113
ZZZ	0.02033	0.56809	0.01241	0.40477	0.41739	0.01177	0.04654	5.08272	0.01172	0.10069	0.02161	0.04829
1201354-1A	-0.00179	60.61438	2.03713	0.98998	5.02961	0.05279	-0.00038	121.83159	0.05355	0.52156	0.24110	0.33623
1201354-13 5X	-0.00075	11.26272	0.01552	0.00005	0.19451	0.00120	-0.00218	8.70833	-0.00030	0.01252	0.01407	0.01479
CRI	0.02004	0.54748	0.01275	0.40291	0.41167	0.01176	0.05049	5.14646	0.01123	0.10130	0.02172	0.04788
ICSA	-0.00205	259.86068	-0.00190	-0.00516	-0.00085	0.00048	0.00406	258.97348	-0.00068	-0.00110	-0.00280	-0.00796
ICSAB	0.20257	209.33260	0.10331	1.00752	0.53809	0.47921	0.54051	261.53927	1.00569	0.48161	0.48872	0.54365
CCV	0.21255	51.54316	0.52463	1.00160	1.05587	0.48772	0.53336	50.79330	0.51056	0.49498	1.01052	1.04386
CCB	-0.00063	0.24713	-0.00029	-0.00010	0.00096	0.00090	-0.00071	0.05676	0.00054	-0.00072	0.00134	-0.00228

Sample Id1	Fe	K	Li	Mg	Mn	Mo	Na	Ni	P	Pb	Pb I	Pb II
MIXBHIGH	-0.01956	-0.46129	-0.00309	-0.03316	9.73158	9.76899	-0.11659	9.73889	49.26311	9.68846	9.77306	9.64622
MIXAHIGH	197.83967	248.60848	9.70762	498.64729	L-0.01431	0.00412	H150.66405	0.00101	0.00888	-0.00017	0.00406	-0.00228
MIXCHIGH	-0.01454	-0.50272	-0.00308	-0.19345	0.00320	-0.00107	-0.11902	-0.00023	0.01011	0.00502	L-0.02642	0.02072
ICV	10.23099	23.53209	0.22792	24.83678	0.51308	0.49914	22.88229	0.49743	2.49772	0.50875	0.50680	0.50973
ICB	-0.00875	-0.32812	-0.00338	-0.00362	-0.00047	-0.00335	-0.14006	-0.00205	-0.00775	-0.00101	L-0.00347	0.00021
CRI	0.20242	3.47105	0.01225	4.98048	0.03208	0.02023	3.66051	0.08066	0.19694	0.00738	0.00967	0.00624
ZZZ	106.53069	-0.44818	-0.00320	263.83730	0.00196	-0.00107	-0.12909	-0.00019	0.00833	-0.00132	-0.00152	-0.00121
ICSA	107.10969	-0.44797	-0.00313	264.37983	0.00202	-0.00025	-0.12819	0.00081	0.00146	-0.00038	0.00450	-0.00282
ICSAB	107.31884	-0.47265	1.08205	265.26313	0.51427	0.99291	-0.12729	0.99141	0.99502	0.04982	0.04214	0.05365
CCV	20.41254	51.54281	0.52060	50.08209	1.01288	1.00264	48.24507	1.00561	4.93310	1.00686	1.01100	1.00480
CCB	0.00577	-0.32248	-0.00332	0.03613	-0.00023	-0.00071	-0.13599	-0.00053	-0.00631	0.00026	0.00255	-0.00088
CCV	20.30082	51.36925	0.51840	49.90117	1.00853	0.98537	48.14691	0.99110	4.92777	1.00260	1.00434	1.00174
CCB	0.00616	-0.31871	-0.00328	0.03639	-0.00011	-0.00066	-0.13200	-0.00013	-0.00598	0.00039	0.00157	-0.00021
ZZZ	0.02230	-0.39882	-0.00354	-0.00074	-0.00029	-0.00107	-0.09185	-0.00019	-0.01130	-0.00060	-0.00218	0.00019
IP120202-2MB	0.02354	-0.35009	-0.00342	-0.00362	-0.00035	-0.00188	-0.08928	-0.00106	-0.00320	0.00103	-0.00126	0.00217
IP120202-2LCS	1.03963	37.64932	0.47039	36.17879	0.49521	0.96347	35.90477	0.48211	-0.00342	0.48518	0.48768	0.48393
1201354-1	118.16513	12.14933	0.07170	22.49394	1.65154	0.03491	7.31037	0.03964	2.38575	0.14431	0.14310	0.14491
1201354-1D	113.28140	9.38163	0.06311	20.77127	1.48104	0.03395	1.32763	0.03812	2.31965	0.13271	0.13464	0.13175
1201354-1L 5X	22.70725	1.51582	0.00822	4.36393	0.33172	0.00539	0.78638	0.00708	0.49137	0.02805	0.02753	0.02831
1201354-1MS	126.66725	53.69552	0.60883	63.09358	2.06439	0.98012	40.00731	0.53219	2.32570	0.62080	0.63339	0.61451
1201354-1MSD	129.57668	54.53206	0.62050	63.86007	2.12684	0.97956	40.44208	0.53531	2.35113	0.63092	0.63685	0.62796
1201354-2	93.01974	5.99850	0.05429	17.38023	1.92874	0.06993	0.26053	0.02527	1.84708	0.11833	0.11685	0.11907
1201354-3	65.78004	5.55503	0.04740	15.93042	1.43925	0.11125	0.38081	0.01880	1.57760	0.17622	0.17615	0.17625
CCV	20.33682	51.83428	0.52385	49.94543	1.00859	0.99591	48.43347	1.00738	4.94250	1.00660	1.01023	1.00478
CCB	0.01520	-0.37016	-0.00326	0.03168	0.00012	-0.00096	-0.12798	-0.00159	-0.00731	-0.00025	0.00123	-0.00098
1201354-4	57.71411	4.95518	0.03997	11.80921	1.53312	0.03278	0.62376	0.02767	1.16572	0.09074	0.09243	0.08989
1201354-5	93.46906	5.90005	0.04456	14.73216	1.33285	0.09773	0.90134	0.02730	1.63031	0.14321	0.14637	0.14163
1201354-6	68.52994	5.60927	0.04466	14.55746	1.36161	0.08538	1.14553	0.02732	1.55069	0.13173	0.13303	0.13109
1201354-7	82.73363	7.48621	0.05969	17.30087	1.85176	0.04259	0.67735	0.04412	1.84250	0.12438	0.12661	0.12327
1201354-8	110.43899	11.26300	0.06447	19.82462	1.57589	0.10342	1.03159	0.05585	2.14463	0.13405	0.13194	0.13510
1201354-9	110.08207	7.65901	0.05965	19.35296	1.86924	0.07130	0.37243	0.03712	2.06495	0.11913	0.11333	0.12203
1201354-10	140.56499	15.25504	0.08588	22.47359	1.99940	0.00971	0.68789	0.08450	2.98296	0.12428	0.12515	0.12385
1201354-11	113.49248	9.11148	0.06943	19.14179	1.94281	0.18470	0.66618	0.04315	2.11721	0.15849	0.16165	0.15692
1201354-12	71.49818	7.03802	0.02038	8.90327	1.15399	0.00198	0.04174	0.03714	1.50302	0.05931	0.06215	0.05790
1201354-13	H265.51909	21.55162	0.06054	26.28049	2.56707	0.00122	1.22304	0.07194	4.02540	0.10372	0.10182	0.10466
CCV	20.38721	52.00740	0.52634	50.37312	1.01121	1.00019	48.67172	1.00630	5.00277	1.00748	1.01271	1.00487
CCB	0.01852	-0.38459	-0.00331	0.03011	0.00006	0.00071	-0.13252	-0.00088	-0.00520	0.00011	0.00252	-0.00110
EX120201-2MB	-0.01199	-0.40509	-0.00353	-0.00179	-0.00065	-0.00300	140.91809	-0.00086	-0.00243	0.00058	-0.00007	0.00091
EX120201-2RVS	0.96397	7.54729	0.03438	4.67182	0.04824	0.09783	7.69196	0.04788	0.92386	0.04780	0.04796	0.04772
EX120201-2LCS	1.00738	50.14414	0.58478	37.31692	0.50246	0.99688	H173.31705	0.50139	-0.00409	0.48969	0.49808	0.48550
1201363-11	1.16681	1.06626	-0.00025	9.56765	0.38545	-0.00152	129.23173	0.00115	0.06079	0.00352	0.00063	0.00496
1201363-11D	1.17712	1.09907	-0.00025	9.68077	0.38972	-0.00051	130.27098	0.00136	0.05802	0.00186	0.00283	0.00137
1201363-11L 5X	0.22252	-0.12547	-0.00273	1.88587	0.07701	-0.00259	25.60423	0.00010	0.00389	0.00190	0.00551	0.00010
1201363-11MS	2.30849	50.55749	0.57809	47.03498	0.88563	0.98680	H162.02296	0.49765	0.06345	0.49452	0.50002	0.49177
1201363-11MSD	2.34105	50.89000	0.58258	47.53647	0.89664	0.99464	H163.05815	0.49988	0.06734	0.50042	0.50154	0.49987
1201363-13	0.93894	0.93227	-0.00040	9.24108	0.39019	-0.00020	135.31625	0.00113	0.03983	0.00289	-0.00083	0.00475
1201363-15	0.94870	1.10973	-0.00017	9.48379	0.37447	-0.00198	129.67362	0.00227	0.05170	0.00410	0.00344	0.00444
CCV	20.33856	51.38540	0.51709	50.23099	1.01347	1.00722	47.89112	1.00415	4.96878	1.00824	1.01485	1.00494
CCB	0.01574	-0.29508	-0.00307	0.03325	0.00030	-0.00046	-0.08165	-0.00132	-0.00819	-0.00131	0.00037	-0.00215
1201363-17	0.91987	0.85806	-0.00077	7.65749	0.28150	-0.00228	133.57086	0.00152	0.04216	0.00494	0.00254	0.00614

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Sample Id1	Fe	K	Li	Mg	Mn	Mo	Na	Ni	P	Pb	Pb I	Pb II
1201363-19	1.89042	1.04431	-0.00033	9.94253	0.34879	-0.00112	135.50311	0.00284	0.06357	0.00478	0.00457	0.00488
ZZZ	0.20025	3.41739	0.01239	4.96271	0.03155	0.02002	3.72482	0.08305	0.20060	0.00530	0.00614	0.00487
1201354-1A	111.32388	54.77640	0.60765	59.07959	2.04918	1.02408	46.71107	0.53969	2.22591	0.62750	0.63294	0.62479
1201354-13 5X	51.27429	3.16785	0.00701	5.20760	0.52050	-0.00152	0.08553	0.01395	0.82924	0.02111	0.02071	0.02130
CRI	0.20551	3.49277	0.01239	4.96402	0.03196	0.01987	3.68506	0.08247	0.19816	0.00809	0.00936	0.00746
ICSA	104.39097	-0.41178	-0.00304	261.74505	0.00095	-0.00503	-0.12095	-0.00171	-0.00342	-0.00069	L-0.00879	0.00336
ICSAB	105.28281	-0.36096	1.04998	262.55631	0.50590	0.98247	-0.11289	0.98173	0.98366	0.05165	0.04801	0.05347
CCV	20.26674	51.02168	0.51222	50.13676	1.00716	1.00325	47.75746	1.00305	4.92505	1.00332	1.01026	0.99986
CCB	0.05668	-0.27835	-0.00279	0.13339	0.00149	0.00071	-0.07157	0.00038	0.00256	0.00056	0.00213	-0.00022

Sample Id1	S	Sb	Se	Se I	Se II	Si	Sn	Sr	Ti	Tl	U	V
MIXBHIGH	-0.01727	1.94621	4.95263	4.96120	4.94836	49.65806	9.85562	9.78627	9.78448	4.92611	-0.07317	4.88935
MIXAHIGH	-0.00012	0.00201	-0.01189	L-0.04481	0.00455	0.00009	-0.00284	0.00772	-0.00087	0.01595	0.17302	L-0.01973
MIXCHIGH	H50.76693	0.00215	0.00416	0.01238	0.00005	L-0.05429	0.02126	-0.00240	0.00547	0.00393	H51.10719	-0.00940
ICV	2.57669	0.24600	0.50986	0.50992	0.50983	2.57927	0.52124	0.25853	0.25059	0.26567	2.55050	0.25074
ICB	-0.02507	-0.00257	-0.00269	-0.00343	-0.00231	-0.02268	-0.00328	-0.00414	-0.00211	-0.00683	-0.04208	-0.00092
CRI	0.20261	0.12026	0.00980	0.01115	0.00912	0.09994	0.09885	0.01790	0.01987	0.02424	0.18753	0.10360
ZZZ	0.04667	-0.00269	-0.00761	L-0.01948	-0.00168	-0.02603	-0.00087	-0.00253	-0.00050	0.00603	0.04692	L-0.01081
ICSA	0.04355	0.00062	-0.00484	L-0.01863	0.00205	-0.02193	0.00395	-0.00233	-0.00021	0.01346	0.06453	-0.00907
ICSAB	1.08379	0.58525	0.05141	0.04131	0.05646	1.01668	1.03344	1.07776	0.99088	0.10665	10.78807	0.49509
CCV	5.17042	0.49542	1.01675	1.01709	1.01659	5.11285	1.02721	0.52651	0.49638	0.52020	5.14036	0.49918
CCB	-0.01571	-0.00085	0.00061	-0.00335	0.00259	-0.01808	-0.00372	-0.00395	-0.00195	0.00245	-0.03063	0.00019
CCV	5.12827	0.48911	1.00367	1.00587	1.00258	5.09766	1.02391	0.52385	0.49532	0.51729	5.14426	0.49698
CCB	-0.01727	-0.00184	0.00064	0.00054	0.00070	-0.02095	-0.00350	-0.00391	-0.00228	0.00049	-0.02790	-0.00089
ZZZ	-0.02351	-0.00118	-0.00353	L-0.00537	-0.00261	-0.02184	-0.00328	-0.00409	-0.00349	L-0.01002	-0.04155	-0.00070
IP120202-2MB	-0.02819	-0.00276	-0.00217	-0.00070	-0.00291	-0.02266	0.00483	-0.00212	-0.00282	-0.00402	-0.05356	-0.00148
IP120202-2LCS	-0.00636	0.45571	1.79012	1.80484	1.78277	1.76998	0.49244	0.53687	0.48314	1.97952	-0.05480	0.48860
1201354-1	5.90258	0.00131	0.09880	0.07633	0.11001	1.52412	0.00246	0.39028	0.15470	0.01901	0.36971	0.80588
1201354-1D	7.09550	0.00114	0.13708	0.12364	0.14380	1.48955	0.00708	0.32460	0.13638	0.01582	0.35066	0.80777
1201354-1L 5X	1.16958	-0.00037	0.01796	0.01147	0.02121	0.29242	-0.00003	0.07419	0.02918	0.00490	0.04342	0.16227
1201354-1MS	6.06807	0.25596	1.89367	1.89497	1.89302	14.10500	0.51158	0.89125	0.63018	1.99872	0.42669	1.51114
1201354-1MSD	6.06651	0.25781	1.89146	1.87913	1.89761	12.95746	0.50129	0.91471	0.60741	1.98390	0.36576	1.56451
1201354-2	4.36188	0.00180	0.24194	0.23169	0.24706	5.21768	0.00567	0.44976	0.22354	0.01558	1.44235	0.95079
1201354-3	4.83793	0.00034	0.51941	0.51757	0.52032	12.19408	0.00354	0.44155	0.35636	0.00939	4.05912	1.64990
CCV	5.16417	0.49422	1.01456	1.01426	1.01471	5.11179	1.02699	0.53185	0.49336	0.52261	5.17754	0.49876
CCB	-0.01571	-0.00257	0.00023	-0.00062	0.00066	-0.01644	-0.00262	-0.00185	-0.00195	0.00228	-0.04864	-0.00003
1201354-4	4.38685	-0.00243	0.13288	0.12882	0.13491	12.02386	0.00096	0.25984	0.31244	0.00887	0.37540	0.65806
1201354-5	5.00027	0.00387	0.38477	0.37889	0.38771	14.29376	0.00332	0.39893	0.35889	0.00877	2.34099	1.11381
1201354-6	4.14026	-0.00151	0.38548	0.37577	0.39033	11.97568	0.00139	0.41809	0.32222	0.00774	2.53810	1.03584
1201354-7	4.60224	-0.00043	0.29713	0.28396	0.30370	16.14467	-0.00038	0.49252	0.52275	0.01169	1.35330	0.84976
1201354-8	10.02901	0.00257	0.14450	0.12662	0.15343	13.55458	0.00173	0.61106	0.40702	0.01685	2.68260	0.54307
1201354-9	4.50079	0.00028	0.23923	0.21543	0.25112	7.42973	-0.00036	0.40838	0.31887	0.00942	1.44547	1.53649
1201354-10	5.85886	-0.00076	0.01289	L-0.01032	0.02447	14.37359	0.00277	0.44338	0.44928	0.01637	0.28242	0.21588
1201354-11	7.94507	0.00261	0.64914	0.63917	0.65412	8.61056	0.00974	0.36436	0.30118	0.02437	2.94798	1.35773
1201354-12	2.30678	-0.00024	0.00743	-0.00136	0.01182	4.72460	0.00180	0.07445	0.34804	0.01538	0.01947	0.08153
1201354-13	18.05717	0.00267	-0.00160	L-0.04102	0.01808	4.52670	0.00342	0.38661	0.26763	0.03470	0.13131	0.18420
CCV	5.21881	0.49993	1.01266	1.02164	1.00818	5.16634	1.04060	0.53551	0.49730	0.52540	5.20480	0.49980
CCB	-0.02039	-0.00124	-0.00123	0.00041	-0.00205	-0.01649	-0.00459	-0.00186	-0.00228	0.00331	-0.01317	-0.00011
EX120201-2MB	-0.01883	-0.00231	0.00138	-0.00087	0.00250	0.00239	0.00155	-0.00207	-0.00258	0.00177	-0.02734	-0.00117
EX120201-2RVS	0.95121	0.09083	0.04468	0.04704	0.04351	0.25124	0.09422	0.04784	0.04445	0.09910	0.46807	0.04850
EX120201-2LCS	-0.00636	0.47950	1.92059	1.94196	1.90992	2.02627	0.51636	0.53668	0.48698	2.06626	-0.05095	0.50203
1201363-11	0.17766	-0.00126	0.00213	-0.00202	0.00420	3.67740	-0.00115	0.07725	0.05491	-0.00012	-0.03960	0.00144
1201363-11D	0.17298	-0.00304	0.00124	0.00315	0.00029	3.73159	-0.00159	0.07770	0.05687	-0.00252	-0.02051	0.00190
1201363-11L 5X	0.02327	-0.00311	0.00171	0.00056	0.00229	0.64656	-0.00263	0.01314	0.00802	0.00087	-0.03296	0.00001
1201363-11MS	0.19325	0.47068	1.91068	1.93463	1.89872	6.88495	0.51606	0.60929	0.54939	2.04263	-0.04857	0.49972
1201363-11MSD	0.20105	0.47655	1.93418	1.94166	1.93044	7.17238	0.51803	0.61459	0.55881	2.07376	-0.04531	0.50528
1201363-13	0.07629	-0.00177	0.00293	0.00116	0.00381	2.89945	-0.00465	0.06806	0.04260	0.00040	-0.04872	0.00094
1201363-15	0.13555	0.00073	0.00012	-0.00037	0.00037	2.95768	-0.00005	0.07919	0.04807	0.00394	-0.03509	0.00188
CCV	5.16261	0.49354	1.01024	1.02428	1.00323	5.13259	1.04192	0.52790	0.49547	0.53056	5.14696	0.50084
CCB	-0.00636	-0.00072	0.00028	0.00548	-0.00231	-0.01926	0.00155	-0.00183	-0.00192	0.00498	-0.03500	-0.00038
1201363-17	0.13867	-0.00153	0.00318	0.00598	0.00179	2.96442	-0.00223	0.06750	0.04322	-0.00121	-0.04762	0.00085

Sample Idl	S	Sb	Se	Se I	Se II	Si	Sn	Sr	Ti	Tl	U	V
1201363-19	0.08877	-0.00304	0.00168	-0.00074	0.00289	3.69342	-0.00006	0.07433	0.05829	0.00151	-0.03737	0.00207
ZZZ	0.20417	0.12217	0.00870	0.00520	0.01045	0.10007	0.10061	0.02025	0.01921	0.02396	0.19463	0.10280
1201354-1A	5.56536	0.47827	2.00976	2.01917	2.00506	3.46451	0.52080	0.90993	0.62908	2.06603	0.35691	1.26106
1201354-13 5X	3.77039	-0.00007	-0.00013	L-0.00758	0.00360	0.86341	-0.00027	0.07541	0.05087	0.00957	0.01305	0.03636
CRI	0.20885	0.11999	0.01203	0.01356	0.01127	0.09583	0.10521	0.01996	0.01941	0.02727	0.18262	0.10266
ICSA	0.03887	-0.00521	-0.00329	L-0.02322	0.00666	-0.03690	-0.00525	-0.00057	-0.00045	0.01365	0.01727	L-0.01109
ICSAB	1.06819	0.58275	0.04664	0.03701	0.05145	0.99508	1.02643	1.05623	0.97166	0.11223	10.53713	0.48768
CCV	5.11734	0.49655	0.99685	1.01332	0.98863	5.09488	1.03314	0.52547	0.49175	0.53494	5.09242	0.49799
CCB	-0.00480	0.00139	0.00111	0.00166	0.00084	-0.01318	0.00045	-0.00113	-0.00109	0.00669	-0.02957	0.00125

Sample Id1	Zn	Zr
MIXBHIGH	9.67701	-0.01459
MIXAHIGH	-0.00569	0.00542
MIXCHIGH	-0.00406	H5.06373
ICV	0.49217	0.50673
ICB	-0.00243	-0.00035
CRI	0.04906	0.05326
ZZZ	-0.00258	0.00283
ICSA	-0.00317	0.00359
ICSAB	0.92026	0.50099
CCV	0.96609	1.01167
CCB	-0.00317	0.00025
CCV	0.95300	1.00580
CCB	-0.00302	-0.00002
ZZZ	-0.00139	0.00006
IP120202-2MB	-0.00095	-0.00008
IP120202-2LCS	0.46454	0.00100
1201354-1	1.11956	0.05342
1201354-1D	0.52828	0.04411
1201354-1L 5X	0.19467	0.00992
1201354-1MS	0.75872	0.05626
1201354-1MSD	0.75217	0.05587
1201354-2	0.17789	0.03754
1201354-3	0.12668	0.04363
CCV	0.94868	1.01255
CCB	-0.00184	0.00010
1201354-4	0.14217	0.02934
1201354-5	0.16004	0.04294
1201354-6	0.15293	0.04257
1201354-7	0.19760	0.04630
1201354-8	0.28516	0.04977
1201354-9	0.22835	0.04428
1201354-10	0.37350	0.05629
1201354-11	0.26077	0.05443
1201354-12	0.17201	0.03208
1201354-13	0.37228	0.04313
CCV	0.96714	1.01737
CCB	-0.00242	0.00035
EX120201-2MB	-0.00257	-0.00027
EX120201-2RVS	0.04542	0.04919
EX120201-2LCS	0.48171	0.00096
1201363-11	0.12097	0.00134
1201363-11D	0.12218	0.00171
1201363-11L 5X	0.02211	-0.00009
1201363-11MS	0.60346	0.00198
1201363-11MSD	0.61150	0.00167
1201363-13	0.12703	0.00087
1201363-15	0.14278	0.00169
CCV	0.98521	1.01160
CCB	-0.00302	-0.00008
1201363-17	0.12279	0.00150

001206

Sample Id1	Zn	Zr
1201363-19	0.15096	0.00184
ZZZ	0.04814	0.05304
1201354-1A	1.54388	0.05197
1201354-13 5X	0.07419	0.00806
CRI	0.04830	0.05223
ICSA	-0.00408	0.00188
ICSAB	0.92737	0.49244
CCV	0.97716	1.00728
CCB	-0.00015	0.00189

Method : Paragon File : 120202A Printed : 2/2/2012 17:32:41
SampleId1 : RL2 **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 13:10:19
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE3

Raw intensities

	Ag Reading	**Al** Reading	**As** Reading	**B** Reading	**Ba** Reading	**Be** Reading	**Bi** Reading	**Ca** Reading	**Cd** Reading
#1	0.114	0.246	0.212	0.341	0.033	0.718	0.165	0.256	0.125
#2	0.114	0.246	0.207	0.340	0.032	0.718	0.162	0.254	0.126
Mean	**0.114**	**0.246**	**0.210**	**0.340**	**0.033**	**0.718**	**0.163**	**0.255**	**0.125**
%RSD	0.558	0.029	1.721	0.332	0.435	0.020	1.082	0.555	0.622

	Co Reading	**Cr** Reading	**Cu** Reading	**Fe** Reading	**K** Reading	**Li** Reading	**Mg** Reading	**Mn** Reading	**Mo** Reading
#1	0.116	0.215	0.080	0.167	1.319	0.833	0.260	0.019	0.118
#2	0.116	0.213	0.080	0.165	1.304	0.834	0.258	0.019	0.117
Mean	**0.116**	**0.214**	**0.080**	**0.166**	**1.312**	**0.833**	**0.259**	**0.019**	**0.117**
%RSD	0.122	0.429	0.089	0.639	0.852	0.102	0.437	0.000	0.302

	Na Reading	**Ni** Reading	**P** Reading	**Pb I** Reading	**Pb II** Reading	**S** Reading	**Sb** Reading	**Se I** Reading	**Se II** Reading
#1	2.727	0.276	0.160	2.223	0.647	0.015	0.186	0.410	0.294
#2	2.659	0.276	0.162	2.217	0.656	0.015	0.186	0.407	0.297
Mean	**2.693**	**0.276**	**0.161**	**2.220**	**0.652**	**0.015**	**0.186**	**0.409**	**0.296**
%RSD	1.809	0.026	0.966	0.182	0.901	1.419	0.076	0.588	0.765

	Si Reading	**Sn** Reading	**Sr** Reading	**Ti** Reading	**Tl** Reading	**U** Reading	**V** Reading	**Zn** Reading	**Zr** Reading
#1	0.470	0.078	0.293	0.490	0.246	0.180	0.141	0.028	0.347
#2	0.471	0.079	0.292	0.485	0.250	0.179	0.141	0.028	0.346
Mean	**0.471**	**0.079**	**0.292**	**0.488**	**0.248**	**0.180**	**0.141**	**0.028**	**0.346**
%RSD	0.090	0.896	0.266	0.609	0.998	0.079	0.100	0.501	0.245

	Pb Reading	**Se** Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:32:42
SampleId1 : B3 **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 13:12:28
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE4

Raw intensities

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.134	0.188	0.244	0.225	0.182	1.074	0.153	0.041	0.398
#2	0.134	0.187	0.235	0.227	0.183	1.076	0.151	0.041	0.397
Mean	**0.134**	**0.188**	**0.240**	**0.226**	**0.183**	**1.075**	**0.152**	**0.041**	**0.397**
%RSD	0.106	0.301	2.626	0.626	0.581	0.138	0.836	0.519	0.125

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.169	0.449	0.159	0.048	0.669	0.098	0.105	0.098	0.186
#2	0.170	0.449	0.160	0.047	0.665	0.098	0.105	0.098	0.186
Mean	**0.169**	**0.449**	**0.160**	**0.047**	**0.667**	**0.098**	**0.105**	**0.098**	**0.186**
%RSD	0.251	0.126	0.266	0.447	0.413	0.144	0.270	0.289	0.152

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.165	0.528	0.307	2.559	0.861	0.008	0.180	0.434	0.329
#2	0.162	0.527	0.307	2.549	0.856	0.008	0.180	0.426	0.337
Mean	**0.164**	**0.527**	**0.307**	**2.554**	**0.858**	**0.008**	**0.180**	**0.430**	**0.333**
%RSD	1.426	0.067	0.023	0.266	0.395	0.868	0.118	1.184	1.655

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.692	0.093	0.671	1.017	0.281	0.144	0.221	0.058	0.251
#2	0.695	0.093	0.675	1.019	0.277	0.141	0.222	0.058	0.250
Mean	**0.693**	**0.093**	**0.673**	**1.018**	**0.279**	**0.142**	**0.221**	**0.058**	**0.251**
%RSD	0.286	0.152	0.399	0.146	0.862	1.241	0.320	0.609	0.254

	Pb	Se
	Reading	Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:32:42
SampleId1 : B2 **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 13:14:27
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE5

Raw intensities

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.424	0.192	0.684	1.639	1.657	6.462	0.153	0.041	3.051
#2	0.423	0.192	0.692	1.639	1.657	6.480	0.155	0.041	3.058
Mean	**0.424**	**0.192**	**0.688**	**1.639**	**1.657**	**6.471**	**0.154**	**0.041**	**3.055**
%RSD	0.167	0.000	0.853	0.000	0.009	0.196	1.149	0.522	0.167

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo

	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.728	2.757	0.955	0.048	0.657	0.119	0.104	0.869	1.141
#2	0.727	2.755	0.956	0.048	0.651	0.119	0.104	0.870	1.146
Mean	**0.727**	**2.756**	**0.956**	**0.048**	**0.654**	**0.119**	**0.104**	**0.869**	**1.143**
%RSD	0.078	0.038	0.111	0.589	0.595	0.178	0.136	0.073	0.328

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.135	3.293	2.342	5.979	2.889	0.008	0.347	0.775	0.871
#2	0.116	3.294	2.360	5.989	2.877	0.008	0.345	0.775	0.871
Mean	**0.126**	**3.294**	**2.351**	**5.984**	**2.883**	**0.008**	**0.346**	**0.775**	**0.871**
%RSD	11.043	0.024	0.529	0.122	0.292	0.000	0.307	0.018	0.016

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	3.980	0.305	6.475	8.391	0.733	0.141	1.081	0.388	0.251
#2	3.992	0.307	6.468	8.394	0.736	0.141	1.080	0.390	0.247
Mean	**3.986**	**0.306**	**6.471**	**8.393**	**0.734**	**0.141**	**1.081**	**0.389**	**0.249**
%RSD	0.213	0.300	0.081	0.019	0.318	0.050	0.111	0.273	0.881

	Pb	**Se**
	Reading	Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:32:42
SampleId1 : B1 **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 13:16:52
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE6

Raw intensities

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	3.380	0.236	5.142	15.661	16.221	60.057	0.199	0.046	28.683
#2	3.364	0.236	5.134	15.576	16.037	59.946	0.202	0.046	28.688
Mean	**3.372**	**0.236**	**5.138**	**15.618**	**16.129**	**60.002**	**0.201**	**0.046**	**28.685**
%RSD	0.329	0.090	0.103	0.383	0.805	0.130	0.916	0.612	0.013

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	6.312	25.820	9.168	0.064	0.647	0.104	0.112	8.364	10.617
#2	6.317	25.815	9.070	0.065	0.656	0.106	0.114	8.354	10.575
Mean	**6.315**	**25.817**	**9.119**	**0.065**	**0.652**	**0.105**	**0.113**	**8.359**	**10.596**
%RSD	0.063	0.015	0.761	1.093	0.998	1.145	0.999	0.080	0.284

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading

#1	0.118	31.029	20.957	40.504	23.168	0.011	2.023	4.232	6.157
#2	0.123	30.970	20.916	40.492	23.229	0.011	2.016	4.202	6.185
Mean	**0.120**	**31.000**	**20.936**	**40.498**	**23.199**	**0.011**	**2.020**	**4.217**	**6.171**
%RSD	2.939	0.135	0.142	0.021	0.188	0.634	0.259	0.495	0.322

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	36.705	2.414	61.704	82.421	5.330	0.153	9.722	3.633	0.284
#2	36.586	2.416	61.284	82.042	5.289	0.155	9.700	3.656	0.287
Mean	**36.645**	**2.415**	**61.494**	**82.231**	**5.310**	**0.154**	**9.711**	**3.644**	**0.286**
%RSD	0.231	0.064	0.483	0.326	0.542	0.781	0.160	0.454	0.619

	Pb	**Se**
	Reading	Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:32:42
SampleId1 : A5 **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 13:18:48
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE7

Raw intensities

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.101	0.962	0.198	0.087	0.021	0.485	0.150	1.475	0.101
#2	0.101	0.962	0.192	0.085	0.021	0.480	0.151	1.486	0.100
Mean	**0.101**	**0.962**	**0.195**	**0.086**	**0.021**	**0.482**	**0.150**	**1.480**	**0.100**
%RSD	0.070	0.059	1.959	0.987	1.334	0.674	0.424	0.492	0.705

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.106	0.194	0.073	1.369	1.479	2.142	1.137	0.013	0.088
#2	0.107	0.196	0.073	1.378	1.489	2.156	1.140	0.013	0.086
Mean	**0.106**	**0.195**	**0.073**	**1.374**	**1.484**	**2.149**	**1.138**	**0.013**	**0.087**
%RSD	0.332	0.544	0.387	0.484	0.491	0.474	0.168	1.651	1.873

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	2.163	0.223	0.083	2.202	0.639	0.009	0.162	0.397	0.277
#2	2.180	0.219	0.080	2.202	0.641	0.009	0.164	0.400	0.278
Mean	**2.171**	**0.221**	**0.082**	**2.202**	**0.640**	**0.009**	**0.163**	**0.399**	**0.278**
%RSD	0.550	1.282	2.943	0.003	0.188	0.000	1.129	0.550	0.255

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.350	0.072	0.057	0.213	0.231	0.144	0.128	0.022	0.237

#2	0.344	0.071	0.056	0.210	0.233	0.145	0.129	0.022	0.239
Mean	**0.347**	**0.071**	**0.057**	**0.211**	**0.232**	**0.144**	**0.128**	**0.022**	**0.238**
%RSD	1.265	0.594	1.876	1.138	0.579	0.538	0.055	0.000	0.653

	Pb Reading	**Se** Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:32:42
SampleId1 : A4 **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 13:20:46
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE8

Raw intensities

	Ag Reading	**Al** Reading	**As** Reading	**B** Reading	**Ba** Reading	**Be** Reading	**Bi** Reading	**Ca** Reading	**Cd** Reading
#1	0.102	7.508	0.212	0.081	0.019	0.485	0.153	13.794	0.102
#2	0.101	7.548	0.212	0.081	0.019	0.490	0.151	13.793	0.101
Mean	**0.101**	**7.528**	**0.212**	**0.081**	**0.019**	**0.487**	**0.152**	**13.793**	**0.102**
%RSD	0.907	0.375	0.300	0.000	2.626	0.609	0.605	0.008	0.278

	Co Reading	**Cr** Reading	**Cu** Reading	**Fe** Reading	**K** Reading	**Li** Reading	**Mg** Reading	**Mn** Reading	**Mo** Reading
#1	0.108	0.208	0.072	12.706	6.535	19.008	10.136	0.013	0.092
#2	0.108	0.207	0.073	12.732	6.583	19.206	10.172	0.014	0.091
Mean	**0.108**	**0.208**	**0.072**	**12.719**	**6.559**	**19.107**	**10.154**	**0.014**	**0.092**
%RSD	0.262	0.340	0.489	0.146	0.511	0.732	0.244	2.080	0.927

	Na Reading	**Ni** Reading	**P** Reading	**Pb I** Reading	**Pb II** Reading	**S** Reading	**Sb** Reading	**Se I** Reading	**Se II** Reading
#1	17.025	0.217	0.086	2.411	0.700	0.009	0.199	0.446	0.311
#2	17.193	0.216	0.088	2.398	0.704	0.009	0.198	0.446	0.313
Mean	**17.109**	**0.216**	**0.087**	**2.405**	**0.702**	**0.009**	**0.199**	**0.446**	**0.312**
%RSD	0.695	0.229	1.058	0.403	0.413	1.554	0.249	0.048	0.454

	Si Reading	**Sn** Reading	**Sr** Reading	**Ti** Reading	**Tl** Reading	**U** Reading	**V** Reading	**Zn** Reading	**Zr** Reading
#1	0.355	0.078	0.039	0.214	0.259	0.167	0.139	0.025	0.245
#2	0.357	0.079	0.041	0.217	0.254	0.166	0.138	0.025	0.243
Mean	**0.356**	**0.078**	**0.040**	**0.215**	**0.256**	**0.167**	**0.138**	**0.025**	**0.244**
%RSD	0.378	0.090	4.950	0.920	1.241	0.636	0.204	1.428	0.754

	Pb Reading	**Se** Reading
#1		
#2		

Mean	**0.000**	**0.000er: MIKE LUNDGREEN**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:32:42
SampleId1 : A3 **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 13:22:45
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE9

Raw intensities

	Ag Reading	**Al** Reading	**As** Reading	**B** Reading	**Ba** Reading	**Be** Reading	**Bi** Reading	**Ca** Reading	**Cd** Reading
#1	0.102	15.052	0.235	0.082	0.019	0.496	0.153	27.118	0.105
#2	0.103	15.045	0.231	0.083	0.020	0.496	0.154	27.181	0.107
Mean	**0.103**	**15.048**	**0.233**	**0.083**	**0.019**	**0.496**	**0.154**	**27.149**	**0.106**
%RSD	0.756	0.033	1.031	1.027	2.545	0.071	0.184	0.164	1.606

	Co Reading	**Cr** Reading	**Cu** Reading	**Fe** Reading	**K** Reading	**Li** Reading	**Mg** Reading	**Mn** Reading	**Mo** Reading
#1	0.110	0.216	0.073	24.652	13.540	42.708	20.247	0.015	0.102
#2	0.110	0.217	0.074	24.684	13.551	42.644	20.228	0.015	0.102
Mean	**0.110**	**0.217**	**0.073**	**24.668**	**13.545**	**42.676**	**20.238**	**0.015**	**0.102**
%RSD	0.386	0.490	0.773	0.090	0.056	0.107	0.064	1.861	0.070

	Na Reading	**Ni** Reading	**P** Reading	**Pb I** Reading	**Pb II** Reading	**S** Reading	**Sb** Reading	**Se I** Reading	**Se II** Reading
#1	35.856	0.222	0.093	2.638	0.776	0.010	0.238	0.501	0.350
#2	35.815	0.223	0.090	2.646	0.782	0.010	0.237	0.507	0.348
Mean	**35.836**	**0.222**	**0.091**	**2.642**	**0.779**	**0.010**	**0.238**	**0.504**	**0.349**
%RSD	0.081	0.064	2.323	0.214	0.526	2.886	0.208	0.855	0.487

	Si Reading	**Sn** Reading	**Sr** Reading	**Ti** Reading	**Tl** Reading	**U** Reading	**V** Reading	**Zn** Reading	**Zr** Reading
#1	0.368	0.087	0.049	0.228	0.285	0.183	0.147	0.029	0.256
#2	0.369	0.086	0.052	0.229	0.288	0.184	0.148	0.029	0.258
Mean	**0.369**	**0.086**	**0.050**	**0.229**	**0.287**	**0.184**	**0.148**	**0.029**	**0.257**
%RSD	0.230	0.327	3.518	0.433	0.764	0.578	0.384	0.248	0.577

	Pb Reading	**Se** Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:32:42
SampleId1 : A2 **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 13:24:45
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE10

Raw intensities**17:32:43** **User: MIKE LUNDGREEN**

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.105	30.400	0.274	0.091	0.019	0.508	0.157	53.437	0.112
#2	0.104	30.329	0.273	0.090	0.020	0.512	0.158	53.289	0.113
Mean	**0.105**	**30.365**	**0.273**	**0.091**	**0.020**	**0.510**	**0.158**	**53.363**	**0.113**
%RSD	0.676	0.167	0.388	0.545	1.799	0.471	0.629	0.195	0.628

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.115	0.230	0.074	47.306	27.976	95.822	40.955	0.018	0.124
#2	0.115	0.228	0.075	47.194	27.850	95.358	40.861	0.018	0.124
Mean	**0.115**	**0.229**	**0.074**	**47.250**	**27.913**	**95.590**	**40.908**	**0.018**	**0.124**
%RSD	0.123	0.556	0.762	0.167	0.319	0.343	0.163	0.790	0.000

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	71.287	0.230	0.102	3.135	0.933	0.011	0.311	0.605	0.424
#2	71.003	0.229	0.099	3.138	0.934	0.011	0.314	0.613	0.422
Mean	**71.145**	**0.230**	**0.101**	**3.137**	**0.934**	**0.011**	**0.312**	**0.609**	**0.423**
%RSD	0.282	0.339	1.687	0.063	0.015	1.886	0.657	0.975	0.401

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.385	0.102	0.065	0.241	0.343	0.211	0.163	0.036	0.260
#2	0.386	0.102	0.067	0.243	0.349	0.210	0.164	0.037	0.260
Mean	**0.386**	**0.102**	**0.066**	**0.242**	**0.346**	**0.210**	**0.163**	**0.036**	**0.260**
%RSD	0.257	0.000	1.825	0.556	1.267	0.269	0.260	0.389	0.000

	Pb	Se
	Reading	Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:32:43
SampleId1 : A1 **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 13:26:50
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE11

Raw intensities

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.108	73.527	0.391	0.119	0.022	0.546	0.172	122.752	0.130
#2	0.109	73.754	0.387	0.118	0.022	0.540	0.170	123.339	0.132
Mean	**0.108**	**73.641**	**0.389**	**0.119**	**0.022**	**0.543**	**0.171**	**123.045**	**0.131**
%RSD	0.130	0.218	0.636	0.535	0.000	0.716	0.704	0.338	0.811

ted: 2/2/2012 17:32:43 User: MIKE LUNDGREEN

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.128	0.261	0.077	102.455	66.895	263.192	100.921	0.026	0.188
#2	0.129	0.263	0.077	102.791	67.146	263.662	101.065	0.026	0.187
Mean	**0.128**	**0.262**	**0.077**	**102.623**	**67.021**	**263.427**	**100.993**	**0.026**	**0.188**
%RSD	0.220	0.568	0.183	0.232	0.265	0.126	0.101	0.271	0.264

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	148.479	0.251	0.129	4.539	1.377	0.014	0.538	0.915	0.631
#2	148.948	0.252	0.127	4.570	1.376	0.014	0.538	0.921	0.634
Mean	**148.714**	**0.251**	**0.128**	**4.555**	**1.377**	**0.014**	**0.538**	**0.918**	**0.633**
%RSD	0.223	0.169	1.326	0.487	0.051	0.507	0.000	0.401	0.335

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.425	0.146	0.115	0.284	0.513	0.287	0.204	0.059	0.285
#2	0.426	0.145	0.116	0.284	0.509	0.291	0.204	0.059	0.287
Mean	**0.426**	**0.145**	**0.116**	**0.284**	**0.511**	**0.289**	**0.204**	**0.059**	**0.286**
%RSD	0.050	0.097	0.245	0.075	0.609	0.954	0.173	0.119	0.346

	Pb	Se
	Reading	Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:32:43
SampleId1 : C3 **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 13:28:46
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE12

Raw intensities

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.099	0.192	0.189	0.070	0.018	0.482	0.176	0.044	0.096
#2	0.100	0.192	0.189	0.070	0.019	0.481	0.179	0.045	0.099
Mean	**0.099**	**0.192**	**0.189**	**0.070**	**0.018**	**0.482**	**0.177**	**0.044**	**0.098**
%RSD	0.356	0.111	0.000	0.405	1.537	0.073	1.116	2.073	1.810

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.104	0.190	0.071	0.051	0.634	0.101	0.108	0.012	0.079
#2	0.105	0.190	0.072	0.051	0.637	0.102	0.108	0.012	0.078
Mean	**0.104**	**0.190**	**0.072**	**0.051**	**0.635**	**0.102**	**0.108**	**0.012**	**0.079**
%RSD	0.474	0.074	0.296	0.693	0.356	0.625	0.328	0.592	0.540

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.112	0.213	0.080	2.131	0.619	0.025	0.158	0.392	0.271
#2	0.113	0.214	0.079	2.144	0.618	0.025	0.158	0.389	0.271
Mean	**0.113**	**0.214**	**0.079**	**2.137**	**0.618**	**0.025**	**0.158**	**0.390**	**0.271**
%RSD	0.942	0.530	0.624	0.427	0.023	1.411	0.045	0.562	0.104

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.327	0.069	0.030	0.192	0.230	0.187	0.123	0.021	0.490
#2	0.328	0.069	0.031	0.194	0.229	0.187	0.123	0.021	0.495
Mean	**0.327**	**0.069**	**0.031**	**0.193**	**0.229**	**0.187**	**0.123**	**0.021**	**0.492**
%RSD	0.065	0.000	2.755	0.916	0.309	0.189	0.173	0.344	0.603

	Pb	Se
	Reading	Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:32:43
SampleId1 : C2 **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 13:30:41
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE13

Raw intensities

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.113	0.198	0.189	0.073	0.018	0.496	0.409	0.045	0.101
#2	0.112	0.199	0.190	0.073	0.018	0.498	0.407	0.045	0.098
Mean	**0.112**	**0.199**	**0.190**	**0.073**	**0.018**	**0.497**	**0.408**	**0.045**	**0.100**
%RSD	0.440	0.320	0.373	0.193	0.387	0.341	0.277	0.473	1.988

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.106	0.218	0.077	0.050	0.638	0.099	0.129	0.013	0.078
#2	0.106	0.217	0.077	0.050	0.631	0.098	0.128	0.013	0.079
Mean	**0.106**	**0.217**	**0.077**	**0.050**	**0.634**	**0.099**	**0.128**	**0.013**	**0.078**
%RSD	0.133	0.260	0.277	0.847	0.758	0.861	0.385	0.555	1.532

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.107	0.218	0.082	2.181	0.637	0.172	0.158	0.390	0.274
#2	0.106	0.215	0.083	2.169	0.635	0.173	0.157	0.386	0.272
Mean	**0.106**	**0.216**	**0.082**	**2.175**	**0.636**	**0.173**	**0.158**	**0.388**	**0.273**
%RSD	0.667	0.817	0.945	0.387	0.322	0.410	0.448	0.711	0.519

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr

	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.348	0.070	0.031	0.211	0.234	0.624	0.132	0.021	3.066
#2	0.348	0.071	0.031	0.208	0.226	0.623	0.131	0.021	3.074
Mean	**0.348**	**0.070**	**0.031**	**0.209**	**0.230**	**0.624**	**0.131**	**0.021**	**3.070**
%RSD	0.020	0.703	0.907	0.879	2.336	0.147	0.593	2.374	0.180

	Pb	**Se**
	Reading	Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:33:11
SampleId1 : RL **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 14:23:30
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE2

Raw intensities

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.105	0.203	0.200	0.161	0.024	0.552	0.156	0.115	0.108
#2	0.104	0.203	0.198	0.162	0.024	0.553	0.153	0.115	0.107
Mean	**0.104**	**0.203**	**0.199**	**0.161**	**0.024**	**0.552**	**0.154**	**0.115**	**0.108**
%RSD	1.017	0.035	0.712	0.263	0.293	0.013	1.053	0.246	0.394

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.109	0.198	0.075	0.089	0.935	0.367	0.158	0.014	0.092
#2	0.109	0.196	0.075	0.088	0.933	0.367	0.157	0.014	0.093
Mean	**0.109**	**0.197**	**0.075**	**0.089**	**0.934**	**0.367**	**0.157**	**0.014**	**0.092**
%RSD	0.000	0.538	0.094	0.240	0.136	0.019	0.404	0.496	0.537

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	1.089	0.234	0.111	2.172	0.638	0.011	0.168	0.401	0.278
#2	1.091	0.235	0.109	2.177	0.630	0.011	0.169	0.392	0.280
Mean	**1.090**	**0.234**	**0.110**	**2.175**	**0.634**	**0.011**	**0.168**	**0.396**	**0.279**
%RSD	0.149	0.181	1.418	0.163	0.892	1.297	0.210	1.534	0.608

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.382	0.073	0.134	0.294	0.235	0.154	0.130	0.023	0.272
#2	0.382	0.072	0.134	0.293	0.236	0.153	0.129	0.023	0.271
Mean	**0.382**	**0.073**	**0.134**	**0.294**	**0.235**	**0.153**	**0.130**	**0.023**	**0.271**
%RSD	0.019	0.970	0.000	0.241	0.301	0.462	0.109	0.000	0.287

	Pb	**Se**
	Reading	Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:33:11
SampleId1 : BLANK **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 14:26:32
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE1

Raw intensities

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.101	0.182	0.191	0.069	0.018	0.465	0.151	0.038	0.098
#2	0.100	0.182	0.193	0.068	0.018	0.465	0.151	0.038	0.100
Mean	**0.100**	**0.182**	**0.192**	**0.069**	**0.018**	**0.465**	**0.151**	**0.038**	**0.099**
%RSD	0.565	0.117	0.700	0.822	0.000	0.000	0.375	0.369	1.355

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.106	0.189	0.073	0.046	0.642	0.093	0.103	0.012	0.078
#2	0.106	0.189	0.073	0.045	0.645	0.093	0.104	0.012	0.080
Mean	**0.106**	**0.189**	**0.073**	**0.046**	**0.643**	**0.093**	**0.103**	**0.012**	**0.079**
%RSD	0.134	0.112	0.097	0.620	0.385	0.303	0.137	0.597	1.706

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.091	0.215	0.080	2.156	0.623	0.009	0.158	0.393	0.271
#2	0.091	0.215	0.079	2.158	0.626	0.009	0.158	0.393	0.276
Mean	**0.091**	**0.215**	**0.079**	**2.157**	**0.624**	**0.009**	**0.158**	**0.393**	**0.273**
%RSD	0.389	0.000	1.161	0.062	0.385	0.000	0.045	0.126	1.216

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.330	0.070	0.030	0.192	0.227	0.140	0.124	0.021	0.236
#2	0.331	0.070	0.030	0.193	0.231	0.141	0.125	0.021	0.236
Mean	**0.331**	**0.070**	**0.030**	**0.193**	**0.229**	**0.141**	**0.124**	**0.021**	**0.236**
%RSD	0.150	0.304	0.711	0.441	1.081	0.452	0.909	0.687	0.030

	Pb	Se
	Reading	Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Line calibration information

Analyte	Reporting name	C0	C1	C2	C3	Correlation coefficient	Low limit	High limit	Date of last regression
Ag 328.068	Ag	0.0000161	0.6618375	-0.0028144	0	1.0000	0.000	3.061	2/2/2012 14:32:08
Al 308.215	Al	0.0093256	6.8405376	0.0036255	0	0.99999	-0.007	70.617	2/2/2012 14:32:08
As 189.042/2	As	0.0051571	1.1099062	-0.000025	0	1.0000	-0.004	4.501	2/2/2012 14:32:08
B 249.678/2	B	-0.0078268	0.739431	0.0003145	0	1.0000	0.001	13.458	2/2/2012 14:32:08
Ba 493.409	Ba	-0.0009868	0.6964842	0.0008698	0	1.0000	0.000	14.1'1	2/2/2012 14:32:08
Be 313.042	Be	-0.0062434	0.016717	0.0000014	0	1.0000	0.465	60.002	2/2/2012 14:32:08
Bi 223.061	Bi	-0.0028998	2.327283	-0.0024444	0	1.0000	0.001	2.155	2/2/2012 14:32:08
Ca 317.933	Ca	-0.1079293	3.7598142	0.004273	0	1.0000	0.002	117.360	2/2/2012 14:32:08
Cd 228.502/2	Cd	-0.0010199	0.2023378	0.0003093	0	1.0000	0.002	23.847	2/2/2012 14:32:08
Co 228.616	Co	0.0004707	0.8254113	0.0001664	0	1.0000	-0.002	6.050	2/2/2012 14:32:08
Cr 267.716	Cr	-0.0006054	0.3968618	0.0000267	0	1.0000	-0.001	25.157	2/2/2012 14:32:08
Cu 324.753	Cu	-0.0306345	1.2602953	-0.0041439	0	1.0000	0.024	8.179	2/2/2012 14:32:08
Fe 259.94	Fe	-0.0157754	1.5446714	0.004334	0	1.0000	0.000	100.631	2/2/2012 14:32:09
K 766.491	K	-3.032715	4.0278127	-0.0037695	0	0.99995	0.643	67.021	2/2/2012 14:32:09
Li 670.784	Li	-0.0062956	0.0498561	-0.0000467	0	1.0000	0.093	263.427	2/2/2012 14:32:09
Mg 279.078	Mg	-0.0007409	5.2294068	-0.001206	0	1.0000	-0.001	97.819	2/2/2012 14:32:09
Mn 257.61	Mn	-0.0008232	1.1634815	0.0042841	0	1.0000	0.000	8.207	2/2/2012 14:32:09
Mo 202.03/2	Mo	-0.0022848	1.016261	0.0012422	0	1.0000	-0.001	9.727	2/2/2012 14:32:09
Na 588.995	Na	-0.2244274	0.8068045	0.0013533	0	0.99996	0.091	146.714	2/2/2012 14:32:09
Ni 231.604	Ni	-0.0030333	0.3944065	-0.0000233	0	1.0000	0.004	25.400	2/2/2012 14:32:09
P 178.287/2	P	-0.0109654	2.2178035	0.0107868	0	1.0000	-0.001	20.505	2/2/2012 14:32:09
Pb 220.351	Pb I	0.0040011	0.2709573	-0.0000003	0	1.0000	-0.022	36.893	2/2/2012 14:32:09
Pb 220.352/2	Pb II	-0.0039965	0.4643665	0.0000067	0	1.0000	0.008	21.535	2/2/2012 14:32:09
S 182.04/2	S	-0.0437811	31.1680343	0.0958129	0	1.0000	0.001	1.597	2/2/2012 14:32:09
Sb 206.836/2	Sb	-0.0024561	1.3215963	0.0064922	0	1.0000	0.000	1.504	2/2/2012 14:32:09
Se 196.021	Se I	0.0012321	1.3390715	0.0001741	0	1.0000	-0.001	3.731	2/2/2012 14:32:09
Se 196.021/2	Se II	-0.003561	0.8600969	0.0025231	0	1.0000	0.003	5.721	2/2/2012 14:32:09
Si 288.158	Si	-0.223926	1.3961002	0.0001792	0	1.0000	0.151	35.759	2/2/2012 14:32:10
Sn 189.989	Sn	0.0002272	4.3839252	0.0193457	0	1.0000	-0.001	2.258	2/2/2012 14:32:10
Sr 421.552	Sr	-0.0042254	0.1800501	0.0001571	0	1.0000	0.000	53.093	2/2/2012 14:32:10

Ti 334.941	Ti	-0.0006263	0.1261675	-0.0000041	0	1.0000	-0.012	79.472	2/2/2012 14:32:10
Tl 190.864/2	Tl	0.0079779	1.1242362	-0.0007049	0	1.0000	-0.010	4.453	2/2/2012 14:32:10
U 385.958	U	-0.019707	13.9145452	0.0045365	0	1.0000	0.000	4.574	2/2/2012 14:32:10
V 292.402	V	-0.0005423	0.5398791	-0.0001936	0	1.0000	0.001	9.293	2/2/2012 14:32:10
Zn 206.2	Zn	-0.0030234	2.9674357	0.0135178	0	1.0000	0.000	3.321	2/2/2012 14:32:10
Zr 339.198	Zr	-0.0011497	0.1836631	-0.0000531	0	1.0000	0.004	27.448	2/2/2012 14:32:10

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:51
SampleId1 : MIXBHIGH **SampleId2 :** **[CV]**
Analysis commenced : 2/2/2012 14:37:45
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE6

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	1.97131	0.14770	4.92127	9.86862	9.74414	0.97137	0.01510	-0.07936	4.84673
#2	1.98654	0.14256	4.95578	9.93630	9.85295	0.98181	0.00827	-0.07898	4.88513
Mean	**1.97893**	**0.14513**	**4.93852**	**9.90246**	**9.79854**	**0.97659**	**0.01168**	**-0.07917**	**4.86593**
%RSD	0.54433	2.50228	0.49414	0.48326	0.78516	0.75583	41.34626	0.33583	0.55799

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	4.85395	9.68320	9.88710	-0.01933	-0.46491	-0.00312	-0.03264	9.66861	9.71782
#2	4.90814	9.81508	9.95154	-0.01979	-0.45767	-0.00307	-0.03369	9.79455	9.82015
Mean	**4.88105**	**9.74914**	**9.91932**	**-0.01956**	**-0.46129**	**-0.00309**	**-0.03316**	**9.73158**	**9.76899**
%RSD	0.78502	0.95655	0.45940	1.67522	1.11003	1.14096	2.23003	0.91515	0.74065

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.11651	9.67919	49.03220	9.72013	9.57996	-0.01571	1.93890	4.94794	4.92285
#2	-0.11667	9.79858	49.49402	9.82598	9.71248	-0.01883	1.95353	4.97446	4.97386
Mean	**-0.11659**	**9.73889**	**49.26311**	**9.77306**	**9.64622**	**-0.01727**	**1.94621**	**4.96120**	**4.94836**
%RSD	0.09815	0.86687	0.66289	0.76589	0.97145	12.76887	0.53184	0.37802	0.72892

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	49.43047	9.78886	9.73944	9.72721	4.90951	-0.06444	4.85926	9.59852	-0.01432
#2	49.88565	9.92238	9.83309	9.84176	4.94273	-0.08191	4.91944	9.75551	-0.01487
Mean	**49.65806**	**9.85562**	**9.78627**	**9.78448**	**4.92612**	**-0.07317**	**4.88935**	**9.67701**	**-0.01459**
%RSD	0.64816	0.95799	0.67672	0.82785	0.47686	16.87483	0.87033	1.14717	2.64845

	Pb	**Se**
	calc	calc
#1	9.62663	4.93121
#2	9.75028	4.97406
Mean	**9.68846**	**4.95263**
%RSD	0.90240	0.61187

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:52
SampleId1 : MIXAHIGH **SampleId2 :** **[CV]**
Analysis commenced : 2/2/2012 14:39:41
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE11

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00021	498.27842	0.00364	0.00378	-0.00015	0.00079	0.00666	495.54320	-0.00056
#2	0.00087	498.63928	-0.00501	0.00437	0.00020	0.00081	0.01318	498.42664	-0.00010
Mean	**0.00054**	**498.45885**	**-0.00069**	**0.00408**	**0.00002**	**0.00080**	**0.00992**	**496.98492**	**-0.00033**
%RSD	86.75529	0.05119	893.10178	10.26200	1164.95077	1.75577	46.48830	0.41025	100.24430

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00006	0.00164	-0.01003	197.38833	248.79744	9.71879	498.26949	-0.01455	0.00381
#2	0.00089	0.00212	-0.00826	198.29100	248.41951	9.69645	499.02510	-0.01408	0.00442
Mean	**0.00047**	**0.00188**	**-0.00914**	**197.83967**	**248.60848**	**9.70762**	**498.64729**	**-0.01431**	**0.00412**
%RSD	123.48282	17.90578	13.64730	0.32263	0.10749	0.16273	0.10715	2.33829	10.47102

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	150.97374	0.00103	0.00567	-0.00253	0.00284	-0.00324	-0.00024	-0.04031	0.01043
#2	150.35435	0.00099	0.01210	0.01065	-0.00741	0.00300	0.00425	-0.04930	-0.00134
Mean	**150.66405**	**0.00101**	**0.00888**	**0.00406**	**-0.00228**	**-0.00012**	**0.00201**	**-0.04481**	**0.00455**
%RSD	0.29069	2.76307	51.19127	229.32793	317.60528	3748.14956	158.31165	14.19919	182.92235

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00191	-0.00679	0.00755	-0.00104	0.01073	0.17333	-0.01984	-0.00658	0.00515
#2	-0.00173	0.00110	0.00790	-0.00069	0.02117	0.17272	-0.01961	-0.00480	0.00568
Mean	**0.00009**	**-0.00284**	**0.00772**	**-0.00087**	**0.01595**	**0.17302**	**-0.01973**	**-0.00569**	**0.00542**
%RSD	2842.72405	196.42534	3.13273	28.77889	46.25763	0.25118	0.82058	22.11026	6.96211

	Pb	Se
	calc	calc
#1	0.00106	-0.00646
#2	-0.00140	-0.01731
Mean	**-0.00017**	**-0.01189**
%RSD	1020.80182	64.52984

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:52
SampleId1 : MIXCHIGH SampleId2 : [CV]
Analysis commenced : 2/2/2012 14:41:36
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE14

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.01644	0.89200	-0.00568	0.00578	-0.00155	0.00337	5.05429	-0.06432	-0.00159
#2	-0.01772	0.87477	-0.00968	0.00629	-0.00148	0.00339	5.07235	-0.06996	-0.00126
Mean	**-0.01708**	**0.88338**	**-0.00768**	**0.00604**	**-0.00151**	**0.00338**	**5.06332**	**-0.06714**	**-0.00142**
%RSD	5.30660	1.37911	36.79889	6.06407	3.25907	0.46158	0.25221	5.94021	16.44640

Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo

	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00384	-0.00970	-0.02956	-0.01269	-0.49548	-0.00304	-0.19266	0.00308	-0.00167
#2	0.00434	-0.00928	-0.02902	-0.01639	-0.50997	-0.00312	-0.19423	0.00332	-0.00046
Mean	**0.00409**	**-0.00949**	**-0.02929**	**-0.01454**	**-0.50272**	**-0.00308**	**-0.19345**	**0.00320**	**-0.00107**
%RSD	8.58329	3.12380	1.32453	18.02936	2.03712	1.83441	0.57346	5.22937	80.95186

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.11788	-0.00082	0.00700	-0.02582	0.02156	50.74174	0.00275	0.01702	-0.00253
#2	-0.12015	0.00036	0.01321	-0.02702	0.01987	50.79213	0.00156	0.00774	0.00263
Mean	**-0.11902**	**-0.00023**	**0.01010**	**-0.02642**	**0.02072**	**50.76693**	**0.00215**	**0.01238**	**0.00005**
%RSD	1.34607	359.01994	43.45928	3.21835	5.77111	0.07020	38.90599	52.99693	7127.17614

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.05558	0.02346	-0.00241	0.00571	0.00186	51.12800	-0.01005	-0.00332	5.06532
#2	-0.05299	0.01907	-0.00239	0.00524	0.00599	51.08637	-0.00875	-0.00480	5.06214
Mean	**-0.05429**	**0.02126**	**-0.00240**	**0.00547**	**0.00393**	**51.10718**	**-0.00940**	**-0.00406**	**5.06373**
%RSD	3.36696	14.57691	0.53116	6.03245	74.41562	0.05760	9.74238	25.82854	0.04442

	Pb	**Se**
	calc	calc
#1	0.00579	0.00398
#2	0.00426	0.00433
Mean	**0.00502**	**0.00416**
%RSD	21.51811	5.99589

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:52
SampleId1 : ICV **SampleId2 :** **[CV]**
Analysis commenced : 2/2/2012 15:07:34
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD1

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.10395	25.49245	0.25459	0.49720	0.52954	0.25031	0.26164	25.09105	0.25371
#2	0.10395	25.41965	0.26336	0.49594	0.52745	0.25006	0.26443	25.07884	0.25324
Mean	**0.10395**	**25.45605**	**0.25898**	**0.49657**	**0.52849**	**0.25019**	**0.26304**	**25.08494**	**0.25348**
%RSD	0.00364	0.20221	2.39406	0.17910	0.28009	0.07238	0.74873	0.03443	0.13008

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.24874	0.51023	0.51332	10.24180	23.59254	0.22851	24.83834	0.51326	0.50107
#2	0.24964	0.51007	0.51090	10.22019	23.47166	0.22734	24.83521	0.51290	0.49720
Mean	**0.24919**	**0.51015**	**0.51211**	**10.23099**	**23.53210**	**0.22792**	**24.83678**	**0.51308**	**0.49914**
%RSD	0.25696	0.02201	0.33320	0.14939	0.36323	0.36395	0.00891	0.04908	0.54775

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm

#1	22.94115	0.49735	2.51184	0.50566	0.51185	2.58917	0.24654	0.51326	0.50647
#2	22.82343	0.49751	2.48359	0.50794	0.50761	2.56421	0.24546	0.50657	0.51319
Mean	**22.88229**	**0.49743**	**2.49772**	**0.50680**	**0.50973**	**2.57669**	**0.24600**	**0.50992**	**0.50983**
%RSD	0.36378	0.02242	0.79976	0.31878	0.58725	0.68505	0.31179	0.92801	0.93310

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	2.57920	0.52365	0.25902	0.25069	0.26657	2.55050	0.25012	0.49292	0.50742
#2	2.57933	0.51882	0.25803	0.25049	0.26477	2.55051	0.25136	0.49143	0.50604
Mean	**2.57927**	**0.52124**	**0.25853**	**0.25059**	**0.26567**	**2.55050**	**0.25074**	**0.49217**	**0.50673**
%RSD	0.00341	0.65485	0.27160	0.05695	0.48155	0.00041	0.34887	0.21349	0.19191

	Pb	**Se**
	calc	calc
#1	0.50979	0.50873
#2	0.50772	0.51099
Mean	**0.50876**	**0.50986**
%RSD	0.28670	0.31328

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:52
SampleId1 : ICB SampleId2 : [CB]
Analysis commenced : 2/2/2012 15:09:59
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD2

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00081	0.06997	-0.00468	-0.00598	-0.00085	-0.00025	-0.00991	-0.09101	-0.00085
#2	-0.00068	0.06408	0.00120	-0.00687	-0.00085	-0.00026	-0.00897	-0.09176	-0.00079
Mean	**-0.00075**	**0.06703**	**-0.00174**	**-0.00642**	**-0.00085**	**-0.00026**	**-0.00944**	**-0.09139**	**-0.00082**
%RSD	12.08577	6.22142	239.07654	9.76713	0.00000	3.32069	6.98636	0.58184	5.27599

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00068	-0.00098	-0.00311	-0.00913	-0.32561	-0.00336	-0.00231	-0.00035	-0.00432
#2	-0.00085	-0.00122	-0.00312	-0.00836	-0.33063	-0.00340	-0.00492	-0.00059	-0.00239
Mean	**-0.00076**	**-0.00110**	**-0.00312**	**-0.00875**	**-0.32812**	**-0.00338**	**-0.00362**	**-0.00047**	**-0.00335**
%RSD	15.24774	15.58501	0.18598	6.24368	1.08171	0.97735	51.11554	35.74771	40.73443

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.14070	-0.00248	-0.00986	-0.00042	0.00105	-0.02195	-0.00172	-0.00617	-0.00296
#2	-0.13942	-0.00161	-0.00564	-0.00652	-0.00062	-0.02819	-0.00343	-0.00068	-0.00167
Mean	**-0.14006**	**-0.00205**	**-0.00775**	**-0.00347**	**0.00021**	**-0.02507**	**-0.00257**	**-0.00343**	**-0.00232**
%RSD	0.64904	29.96872	38.44943	124.12172	553.42127	17.59464	46.75164	113.46069	39.40823

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.02240	-0.00372	-0.00417	-0.00204	-0.00712	-0.04590	-0.00114	-0.00154	-0.00030

#2	-0.02297	-0.00284	-0.00412	-0.00218	-0.00655	-0.03826	-0.00071	-0.00332	-0.00039
Mean	**-0.02268**	**-0.00328**	**-0.00414**	**-0.00211**	**-0.00683**	**-0.04208**	**-0.00092**	**-0.00243**	**-0.00035**
%RSD	1.75443	18.91973	0.92180	4.64933	5.86470	12.83884	33.13731	51.81269	18.72003

	Pb calc	**Se** calc
#1	0.00056	-0.00403
#2	-0.00259	-0.00134
Mean	**-0.00101**	**-0.00268**
%RSD	219.67130	70.87346

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:52
SampleId1 : CRI **SampleId2 :** **[FLEXQC]**
Analysis commenced : 2/2/2012 15:12:05
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD3

Final concentrations

	Ag ppm	**Al** ppm	**As** ppm	**B** ppm	**Ba** ppm	**Be** ppm	**Bi** ppm	**Ca** ppm	**Cd** ppm
#1	0.02020	0.49597	0.00686	0.39585	0.41108	0.01167	0.04944	5.12119	0.01150
#2	0.01946	0.50465	0.00498	0.39969	0.41429	0.01174	0.04130	5.13062	0.01151
Mean	**0.01983**	**0.50031**	**0.00592**	**0.39777**	**0.41268**	**0.01170**	**0.04537**	**5.12590**	**0.01151**
%RSD	2.62690	1.22638	22.54280	0.68384	0.54977	0.40723	12.68422	0.13007	0.07944

	Co ppm	**Cr** ppm	**Cu** ppm	**Fe** ppm	**K** ppm	**Li** ppm	**Mg** ppm	**Mn** ppm	**Mo** ppm
#1	0.10129	0.02132	0.04686	0.20242	3.47105	0.01222	4.97604	0.03208	0.01977
#2	0.10122	0.02183	0.04805	0.20242	3.47105	0.01228	4.98492	0.03208	0.02068
Mean	**0.10126**	**0.02158**	**0.04745**	**0.20242**	**3.47105**	**0.01225**	**4.98048**	**0.03208**	**0.02023**
%RSD	0.05417	1.66775	1.78174	0.00000	0.00000	0.32926	0.12616	0.00000	3.19776

	Na ppm	**Ni** ppm	**P** ppm	**Pb I** ppm	**Pb II** ppm	**S** ppm	**Sb** ppm	**Se I** ppm	**Se II** ppm
#1	3.65156	0.08015	0.19339	0.01243	0.00773	0.19949	0.12118	0.01141	0.00654
#2	3.66946	0.08117	0.20049	0.00690	0.00475	0.20573	0.11933	0.01089	0.01170
Mean	**3.66051**	**0.08066**	**0.19694**	**0.00967**	**0.00624**	**0.20261**	**0.12025**	**0.01115**	**0.00912**
%RSD	0.34580	0.89896	2.55050	40.44954	33.75654	2.17702	1.08828	3.31827	40.00886

	Si ppm	**Sn** ppm	**Sr** ppm	**Ti** ppm	**Tl** ppm	**U** ppm	**V** ppm	**Zn** ppm	**Zr** ppm
#1	0.09758	0.10104	0.01782	0.01999	0.02385	0.18098	0.10385	0.04891	0.05330
#2	0.10231	0.09666	0.01798	0.01976	0.02464	0.19408	0.10336	0.04921	0.05323
Mean	**0.09994**	**0.09885**	**0.01790**	**0.01987**	**0.02424**	**0.18753**	**0.10361**	**0.04906**	**0.05326**
%RSD	3.35212	3.13633	0.64037	0.80801	2.31884	4.93856	0.33157	0.42777	0.09867

	Pb calc	**Se** calc
#1	0.00930	0.00816
#2	0.00547	0.01143

Mean	**0.00738**	**0.00980er: MIKE LUNDGREEN**
%RSD	36.67534	23.58845

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:52
SampleId1 : ZZZ **SampleId2 :** **[FLEXQC]**
Analysis commenced : 2/2/2012 15:14:01
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD4

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00049	262.23941	0.00342	-0.00702	-0.00085	0.00037	0.00408	261.27052	-0.00036
#2	-0.00194	262.67862	-0.00335	-0.00731	-0.00085	0.00041	0.00058	260.20671	-0.00039
Mean	**-0.00122**	**262.45902**	**0.00004**	**-0.00716**	**-0.00085**	**0.00039**	**0.00233**	**260.73861**	**-0.00037**
%RSD	83.91587	0.11833	13296.05015	2.91964	0.00000	7.58691	106.12742	0.28850	6.55566

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00047	-0.00143	-0.00612	106.58110	-0.43856	-0.00317	263.52913	0.00202	-0.00096
#2	0.00031	-0.00098	-0.00720	106.48028	-0.45780	-0.00322	264.14546	0.00190	-0.00117
Mean	**0.00039**	**-0.00121**	**-0.00666**	**106.53069**	**-0.44818**	**-0.00320**	**263.83730**	**0.00196**	**-0.00107**
%RSD	30.03816	25.97269	11.42377	0.06692	3.03596	1.03286	0.16518	4.27415	13.49197

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.12871	0.00000	0.00811	0.00065	-0.00379	0.04355	-0.00064	-0.02323	-0.00210
#2	-0.12948	-0.00039	0.00855	-0.00369	0.00137	0.04978	-0.00474	-0.01573	-0.00126
Mean	**-0.12909**	**-0.00019**	**0.00833**	**-0.00152**	**-0.00121**	**0.04666**	**-0.00269**	**-0.01948**	**-0.00168**
%RSD	0.42254	144.05347	3.76543	201.29749	300.76977	9.45191	107.87977	27.24133	35.25616

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.02422	0.00286	-0.00251	-0.00044	0.00392	0.05289	-0.00985	-0.00332	0.00328
#2	-0.02783	-0.00459	-0.00255	-0.00057	0.00814	0.04095	-0.01176	-0.00184	0.00238
Mean	**-0.02603**	**-0.00087**	**-0.00253**	**-0.00050**	**0.00603**	**0.04692**	**-0.01081**	**-0.00258**	**0.00283**
%RSD	9.82952	606.97836	1.00566	17.76788	49.43739	17.99132	12.49378	40.69246	22.45748

	Pb	**Se**
	calc	calc
#1	-0.00231	-0.00914
#2	-0.00032	-0.00608
Mean	**-0.00132**	**-0.00761**
%RSD	107.10844	28.42436

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:53
SampleId1 : ICSA **SampleId2 :** **[FLEXQC]**
Analysis commenced : 2/2/2012 15:18:06
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD4

Final concentrations:**04** **User: MIKE LUNDGREEN**

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00055	262.66309	0.00209	-0.00702	-0.00071	0.00047	0.00245	263.14455	-0.00029
#2	-0.00064	262.72634	-0.00191	-0.00628	-0.00036	0.00051	-0.00662	262.62054	0.00043
Mean	**-0.00004**	**262.69471**	**0.00009**	**-0.00665**	**-0.00054**	**0.00049**	**-0.00208**	**262.88254**	**0.00007**
%RSD	2057.49548	0.01703	3087.76566	7.86759	45.93681	6.34563	307.98771	0.14095	701.84913

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00121	-0.00096	-0.00553	107.17118	-0.43814	-0.00320	264.38902	0.00202	0.00117
#2	0.00080	-0.00068	-0.00601	107.04820	-0.45780	-0.00305	264.37064	0.00202	-0.00167
Mean	**0.00101**	**-0.00082**	**-0.00577**	**107.10969**	**-0.44797**	**-0.00313**	**264.37983**	**0.00202**	**-0.00025**
%RSD	28.99039	24.10022	5.90088	0.08118	3.10341	3.28530	0.00492	0.00000	797.75032

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.12845	0.00162	-0.00431	0.00889	-0.00531	0.04043	0.00175	-0.01837	0.00120
#2	-0.12793	0.00000	0.00722	0.00012	-0.00033	0.04666	-0.00052	-0.01889	0.00289
Mean	**-0.12819**	**0.00081**	**0.00145**	**0.00450**	**-0.00282**	**0.04355**	**0.00062**	**-0.01863**	**0.00204**
%RSD	0.28367	140.79390	560.61541	137.65222	124.79584	10.12887	260.36202	1.95847	58.62095

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.02129	0.00637	-0.00239	-0.00035	0.01545	0.06558	-0.00893	-0.00362	0.00354
#2	-0.02256	0.00154	-0.00228	-0.00007	0.01146	0.06348	-0.00922	-0.00273	0.00365
Mean	**-0.02193**	**0.00395**	**-0.00233**	**-0.00021**	**0.01346**	**0.06453**	**-0.00907**	**-0.00317**	**0.00359**
%RSD	4.08615	86.24997	3.27301	92.61427	20.98939	2.30018	2.28948	19.84686	2.17323

	Pb	**Se**
	calc	calc
#1	-0.00058	-0.00532
#2	-0.00018	-0.00436
Mean	**-0.00038**	**-0.00484**
%RSD	74.25825	14.00912

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:53
SampleId1 : ICSAB **SampleId2 :** **[FLEXQC]**
Analysis commenced : 2/2/2012 15:20:04
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD5

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.20297	213.09320	0.10376	1.01963	0.55257	0.48549	0.54471	262.54889	1.00280
#2	0.20083	212.22352	0.09976	1.01659	0.55180	0.48365	0.54493	261.55952	1.00100
Mean	**0.20190**	**212.65836**	**0.10176**	**1.01811**	**0.55218**	**0.48457**	**0.54482**	**262.05421**	**1.00190**
%RSD	0.74836	0.28918	2.77652	0.21081	0.09830	0.26903	0.02729	0.26696	0.12708

ted: 2/2/2012 17:36:04 User: MIKE LUNDGREEN

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.48720	0.49328	0.55210	107.49761	-0.47370	1.08401	265.64604	0.51492	0.99719
#2	0.48406	0.49100	0.55035	107.14007	-0.47160	1.08008	264.88021	0.51361	0.98863
Mean	**0.48563**	**0.49214**	**0.55122**	**107.31884**	**-0.47265**	**1.08205**	**265.26313**	**0.51427**	**0.99291**
%RSD	0.45633	0.32678	0.22492	0.23558	0.31291	0.25682	0.20415	0.17956	0.60939

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.12742	0.99360	1.00326	0.04284	0.05766	1.07911	0.58493	0.04425	0.05822
#2	-0.12716	0.98923	0.98678	0.04143	0.04964	1.08847	0.58556	0.03837	0.05470
Mean	**-0.12729**	**0.99141**	**0.99502**	**0.04214**	**0.05365**	**1.08379**	**0.58524**	**0.04131**	**0.05646**
%RSD	0.14284	0.31215	1.17143	2.36539	10.56888	0.61058	0.07579	10.06203	4.39961

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	1.01897	1.03608	1.07948	0.99191	0.10197	10.81417	0.49728	0.92473	0.50166
#2	1.01440	1.03081	1.07604	0.98985	0.11133	10.76198	0.49290	0.91580	0.50032
Mean	**1.01668**	**1.03344**	**1.07776**	**0.99088**	**0.10665**	**10.78807**	**0.49509**	**0.92026**	**0.50099**
%RSD	0.31777	0.36054	0.22564	0.14758	6.20542	0.34208	0.62637	0.68597	0.18881

	Pb	Se
	calc	calc
#1	0.05273	0.05357
#2	0.04691	0.04926
Mean	**0.04982**	**0.05142**
%RSD	8.25837	5.91464

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:53
SampleId1 : CCV **SampleId2 :** **[CV]**
Analysis commenced : 2/2/2012 15:22:02
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD6

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.20831	51.58678	0.51963	0.99557	1.06331	0.48887	0.52081	50.56437	0.50868
#2	0.20824	51.66391	0.51431	0.99675	1.06709	0.48795	0.53548	50.43074	0.50613
Mean	**0.20828**	**51.62534**	**0.51697**	**0.99616**	**1.06520**	**0.48841**	**0.52814**	**50.49756**	**0.50741**
%RSD	0.02248	0.10565	0.72868	0.08408	0.25062	0.13322	1.96368	0.18711	0.35578

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.49408	1.01136	1.03953	20.42173	51.49804	0.52007	50.07741	1.01311	1.00299
#2	0.49325	1.01014	1.04399	20.40335	51.58758	0.52113	50.08678	1.01264	1.00228
Mean	**0.49367**	**1.01075**	**1.04176**	**20.41254**	**51.54281**	**0.52060**	**50.08209**	**1.01288**	**1.00264**
%RSD	0.11763	0.08598	0.30233	0.06365	0.12283	0.14448	0.01323	0.03325	0.05029

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	48.21462	1.00559	4.93899	1.01315	1.00405	5.17354	0.49588	1.02084	1.01650
#2	48.27552	1.00563	4.92721	1.00885	1.00554	5.16729	0.49496	1.01334	1.01667
Mean	**48.24507**	**1.00561**	**4.93310**	**1.01100**	**1.00480**	**5.17041**	**0.49542**	**1.01709**	**1.01659**
%RSD	0.08925	0.00277	0.16885	0.30055	0.10520	0.08539	0.13143	0.52143	0.01179

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	5.10970	1.02962	0.52562	0.49617	0.51408	5.14199	0.50026	0.97056	1.01135
#2	5.11600	1.02479	0.52739	0.49660	0.52632	5.13873	0.49810	0.96163	1.01199
Mean	**5.11285**	**1.02721**	**0.52651**	**0.49638**	**0.52020**	**5.14036**	**0.49918**	**0.96609**	**1.01167**
%RSD	0.08712	0.33268	0.23824	0.06109	1.66346	0.04489	0.30620	0.65352	0.04470

	Pb	Se
	calc	calc
#1	1.00708	1.01795
#2	1.00664	1.01556
Mean	**1.00686**	**1.01675**
%RSD	0.03047	0.16583

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:53
SampleId1 : CCB **SampleId2 :** **[CB]**
Analysis commenced : 2/2/2012 15:24:10
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD2

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00023	0.08311	-0.00335	-0.00605	-0.00078	-0.00015	-0.00804	-0.08499	-0.00029
#2	-0.00015	0.13380	-0.00757	-0.00561	-0.00036	0.00001	-0.00804	-0.02559	-0.00016
Mean	**-0.00019**	**0.10845**	**-0.00546**	**-0.00583**	**-0.00057**	**-0.00007**	**-0.00804**	**-0.05529**	**-0.00022**
%RSD	28.39116	33.04777	54.64105	5.37889	51.76151	166.22528	0.02060	75.97394	41.09889

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00093	-0.00012	-0.00302	-0.00635	-0.32060	-0.00338	0.00606	-0.00047	-0.00117
#2	-0.00027	0.00017	-0.00227	0.01790	-0.32436	-0.00327	0.06620	0.00001	-0.00025
Mean	**-0.00060**	**0.00003**	**-0.00265**	**0.00577**	**-0.32248**	**-0.00332**	**0.03613**	**-0.00023**	**-0.00071**
%RSD	77.97467	777.75054	19.90455	297.02095	0.82548	2.20747	117.70905	144.59595	91.14968

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.13899	-0.00055	-0.00542	0.00047	-0.00282	-0.01571	-0.00065	-0.00388	0.00315
#2	-0.13299	-0.00051	-0.00720	0.00463	0.00105	-0.01571	-0.00105	-0.00283	0.00203
Mean	**-0.13599**	**-0.00053**	**-0.00631**	**0.00255**	**-0.00088**	**-0.01571**	**-0.00085**	**-0.00335**	**0.00259**
%RSD	3.11959	5.27352	19.88915	115.56662	310.83454	0.00000	32.72258	22.16691	30.38142

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr

	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.01893	-0.00459	-0.00410	-0.00202	0.00380	-0.02189	0.00043	-0.00332	0.00014
#2	-0.01722	-0.00284	-0.00379	-0.00188	0.00111	-0.03937	-0.00005	-0.00302	0.00036
Mean	**-0.01808**	**-0.00372**	**-0.00395**	**-0.00195**	**0.00246**	**-0.03063**	**0.00019**	**-0.00317**	**0.00025**
%RSD	6.68024	33.36431	5.48576	5.04105	77.66574	40.35883	181.35118	6.61562	62.35121

	Pb	**Se**
	calc	calc
#1	-0.00172	0.00081
#2	0.00225	0.00042
Mean	**0.00026**	**0.00061**
%RSD	1071.50178	45.35781

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:53
SampleId1 : CCV **SampleId2 :** **[CV]**
Analysis commenced : 2/2/2012 15:26:08
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD6

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.20853	51.44581	0.51719	0.98846	1.06017	0.48572	0.53336	50.20496	0.50466
#2	0.20945	51.57090	0.50809	0.98839	1.06436	0.48584	0.52429	50.13178	0.50538
Mean	**0.20899**	**51.50836**	**0.51264**	**0.98842**	**1.06226**	**0.48578**	**0.52882**	**50.16837**	**0.50502**
%RSD	0.31234	0.17173	1.25534	0.00530	0.27923	0.01794	1.21194	0.10316	0.10008

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.49234	1.00739	1.03375	20.29611	51.30955	0.51754	49.85822	1.00871	0.98680
#2	0.49243	1.00517	1.03749	20.30554	51.42894	0.51926	49.94413	1.00835	0.98394
Mean	**0.49238**	**1.00628**	**1.03562**	**20.30082**	**51.36925**	**0.51840**	**49.90118**	**1.00853**	**0.98537**
%RSD	0.01251	0.15581	0.25542	0.03285	0.16434	0.23467	0.12173	0.02505	0.20468

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	48.10105	0.99147	4.92992	1.00689	1.00161	5.09861	0.48891	1.00547	0.99950
#2	48.19276	0.99072	4.92562	1.00179	1.00186	5.15793	0.48931	1.00626	1.00565
Mean	**48.14691**	**0.99110**	**4.92777**	**1.00434**	**1.00174**	**5.12827**	**0.48911**	**1.00586**	**1.00258**
%RSD	0.13469	0.05345	0.06176	0.35876	0.01754	0.81790	0.05796	0.05565	0.43378

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	5.08681	1.02435	0.52305	0.49501	0.51909	5.14972	0.49646	0.95211	1.00469
#2	5.10851	1.02347	0.52464	0.49563	0.51549	5.13880	0.49749	0.95389	1.00691
Mean	**5.09766**	**1.02391**	**0.52385**	**0.49532**	**0.51729**	**5.14426**	**0.49698**	**0.95300**	**1.00580**
%RSD	0.30095	0.06072	0.21501	0.08823	0.49190	0.15017	0.14611	0.13249	0.15545

	Pb	**Se**
	calc	calc

#1	1.00337	1.00149
#2	1.00184	1.00586
Mean	**1.00260**	**1.00367**
%RSD	0.10798	0.30759

er: MIKE LUNDGREEN

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:54
SampleId1 : CCB **SampleId2 :** **[CB]**
Analysis commenced : 2/2/2012 15:30:12
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD2

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00089	0.10960	0.00031	-0.00568	-0.00071	-0.00001	-0.00594	-0.05755	-0.00031
#2	-0.00043	0.11710	-0.00413	-0.00539	-0.00057	0.00002	0.00453	-0.04965	-0.00045
Mean	**-0.00066**	**0.11335**	**-0.00191**	**-0.00554**	**-0.00064**	**0.00000**	**-0.00071**	**-0.05360**	**-0.00038**
%RSD	49.80510	4.67781	164.67715	3.77749	15.37770	506.15948	1047.60822	10.41652	24.48559

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00043	0.00048	-0.00253	0.00400	-0.31725	-0.00329	0.03534	-0.00011	0.00036
#2	-0.00200	-0.00003	-0.00229	0.00832	-0.32018	-0.00327	0.03743	-0.00011	-0.00167
Mean	**-0.00122**	**0.00022**	**-0.00241**	**0.00616**	**-0.31871**	**-0.00328**	**0.03639**	**-0.00011**	**-0.00066**
%RSD	91.09200	163.34831	7.14470	49.65304	0.64963	0.44708	4.06480	0.00000	218.17990

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.13291	-0.00015	-0.00431	0.00239	-0.00114	-0.01883	-0.00276	0.00188	-0.00003
#2	-0.13111	-0.00011	-0.00764	0.00076	0.00072	-0.01571	-0.00092	-0.00080	0.00143
Mean	**-0.13201**	**-0.00013**	**-0.00598**	**0.00157**	**-0.00021**	**-0.01727**	**-0.00184**	**0.00054**	**0.00070**
%RSD	0.96415	20.74454	39.36850	73.30928	629.52266	12.76887	70.67653	354.16395	148.17993

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.02143	-0.00152	-0.00394	-0.00237	0.00212	-0.02735	-0.00065	-0.00332	-0.00017
#2	-0.02046	-0.00547	-0.00388	-0.00218	-0.00114	-0.02844	-0.00113	-0.00273	0.00012
Mean	**-0.02095**	**-0.00350**	**-0.00391**	**-0.00227**	**0.00049**	**-0.02790**	**-0.00089**	**-0.00302**	**-0.00003**
%RSD	3.28102	79.79591	0.97699	5.88286	469.96944	2.77397	38.44849	13.88057	818.43264

	Pb	**Se**
	calc	calc
#1	0.00004	0.00060
#2	0.00073	0.00069
Mean	**0.00038**	**0.00064**
%RSD	127.95485	9.16677

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:54
SampleId1 : ZZZ **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 15:32:10

Dilution ratio : 1.00000 to 1.00000   Tray :   Position : TUBE1

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00008	0.07821	-0.00635	-0.00635	-0.00071	-0.00032	-0.00851	-0.07484	-0.00049
#2	0.00024	0.07570	-0.00446	-0.00694	-0.00064	-0.00031	-0.00152	-0.07484	0.00004
Mean	**0.00008**	**0.07695**	**-0.00540**	**-0.00665**	**-0.00068**	**-0.00031**	**-0.00502**	**-0.07484**	**-0.00022**
%RSD	288.07250	2.31007	24.69578	6.29407	7.29238	2.67296	98.51378	0.00000	168.26089

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00216	-0.00074	-0.00203	0.02192	-0.39798	-0.00354	-0.00388	-0.00023	0.00026
#2	-0.00216	-0.00015	-0.00058	0.02269	-0.39965	-0.00354	0.00240	-0.00035	-0.00239
Mean	**-0.00216**	**-0.00044**	**-0.00130**	**0.02230**	**-0.39882**	**-0.00354**	**-0.00074**	**-0.00029**	**-0.00107**
%RSD	0.01013	94.18488	78.41259	2.44895	0.29666	0.00000	598.92542	28.78991	175.39598

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.09159	-0.00051	-0.01407	-0.00286	0.00054	-0.02819	-0.00235	-0.00765	-0.00356
#2	-0.09210	0.00012	-0.00853	-0.00151	-0.00016	-0.01883	0.00000	-0.00309	-0.00166
Mean	**-0.09185**	**-0.00019**	**-0.01130**	**-0.00218**	**0.00019**	**-0.02351**	**-0.00118**	**-0.00537**	**-0.00261**
%RSD	0.39597	230.48554	34.70108	43.69475	259.99647	28.14263	141.39336	60.00107	51.27061

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.02196	-0.00415	-0.00410	-0.00344	-0.01295	-0.04483	-0.00146	-0.00065	0.00001
#2	-0.02171	-0.00240	-0.00408	-0.00354	-0.00710	-0.03828	0.00006	-0.00213	0.00010
Mean	**-0.02184**	**-0.00328**	**-0.00409**	**-0.00349**	**-0.01002**	**-0.04155**	**-0.00070**	**-0.00139**	**0.00006**
%RSD	0.83908	37.85360	0.31133	2.04369	41.27428	11.14352	152.72125	75.41022	112.92948

	Pb	Se
	calc	calc
#1	-0.00059	-0.00492
#2	-0.00061	-0.00214
Mean	**-0.00060**	**-0.00353**
%RSD	2.29344	55.69565

Method : Paragon   File : 120202A   Printed : 2/2/2012 17:35:54
SampleId1 : IP120202-2MB   SampleId2 :   [SAMPLE]
Analysis commenced : 2/2/2012 15:36:22
Dilution ratio : 1.00000 to 1.00000   Tray :   Position : TUBE1

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00128	0.07636	0.00054	-0.00379	-0.00085	-0.00029	-0.00781	-0.07033	-0.00027
#2	-0.00099	0.08082	-0.00279	-0.00365	-0.00085	-0.00028	-0.00828	-0.07184	-0.00023

Mean	**-0.00114**	**0.07859**	**-0.00113**	**-0.00372**	**-0.00085**	**-0.00029**	**-0.00804**	**-0.07108**	**-0.00025**
%RSD	17.76446	4.01504	208.87549	2.81132	0.00000	1.23020	4.15105	1.49607	12.00951

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00134	-0.00078	-0.00167	0.02393	-0.35406	-0.00344	-0.00283	-0.00035	-0.00218
#2	-0.00175	-0.00089	-0.00140	0.02315	-0.34611	-0.00341	-0.00440	-0.00035	-0.00157
Mean	**-0.00155**	**-0.00083**	**-0.00153**	**0.02354**	**-0.35009**	**-0.00342**	**-0.00362**	**-0.00035**	**-0.00188**
%RSD	18.86697	8.80324	12.57421	2.32038	1.60528	0.64317	30.66933	0.00000	22.95563

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.08936	-0.00035	-0.00365	0.00055	0.00374	-0.02819	-0.00224	-0.00778	-0.00356
#2	-0.08919	-0.00177	-0.00276	-0.00307	0.00060	-0.02819	-0.00329	0.00639	-0.00227
Mean	**-0.08928**	**-0.00106**	**-0.00320**	**-0.00126**	**0.00217**	**-0.02819**	**-0.00276**	**-0.00070**	**-0.00291**
%RSD	0.13579	94.60101	19.58524	203.23999	102.11426	0.00000	26.90200	1436.30463	31.35218

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.02073	0.00549	-0.00214	-0.00282	-0.00738	-0.03937	-0.00151	-0.00065	0.00001
#2	-0.02459	0.00418	-0.00210	-0.00281	-0.00065	-0.06775	-0.00146	-0.00124	-0.00017
Mean	**-0.02266**	**0.00483**	**-0.00212**	**-0.00282**	**-0.00402**	**-0.05356**	**-0.00148**	**-0.00095**	**-0.00008**
%RSD	12.07498	19.24006	1.20286	0.31667	118.48454	37.46539	2.56781	44.35498	161.42009

	Pb	**Se**
	calc	calc
#1	0.00268	-0.00496
#2	-0.00062	0.00062
Mean	**0.00103**	**-0.00217**
%RSD	226.62334	181.48564

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:54
SampleId1 : IP120202-2LCS SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 15:38:14
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE2

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.09280	2.17288	1.90251	0.46106	2.07601	0.04733	-0.00901	37.01795	0.04979
#2	0.09405	2.18342	1.90573	0.46003	2.08366	0.04750	-0.00574	37.29277	0.04965
Mean	**0.09343**	**2.17815**	**1.90412**	**0.46055**	**2.07984**	**0.04742**	**-0.00737**	**37.15536**	**0.04972**
%RSD	0.94484	0.34224	0.11952	0.15903	0.26002	0.26585	31.37078	0.52300	0.20417

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.47282	0.19401	0.25652	1.03583	37.53146	0.46907	36.08522	0.49355	0.96316
#2	0.47836	0.19520	0.25772	1.04343	37.76719	0.47170	36.27235	0.49688	0.96377
Mean	**0.47559**	**0.19461**	**0.25712**	**1.03963**	**37.64932**	**0.47038**	**36.17879**	**0.49521**	**0.96347**

%RSD	0.82302	0.43073	0.32940	0.51677	0.44273	0.39553	0.36575	0.47460	0.04485

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	35.82368	0.48134	-0.00342	0.48733	0.48099	-0.00324	0.45578	1.79901	1.77620
#2	35.98586	0.48288	-0.00342	0.48803	0.48688	-0.00947	0.45564	1.81067	1.78935
Mean	**35.90477**	**0.48211**	**-0.00342**	**0.48768**	**0.48393**	**-0.00636**	**0.45571**	**1.80484**	**1.78277**
%RSD	0.31939	0.22557	0.00000	0.10136	0.86117	69.40134	0.02181	0.45690	0.52142

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	1.76293	0.49266	0.53584	0.48154	1.96976	-0.05970	0.48588	0.46201	0.00088
#2	1.77704	0.49222	0.53790	0.48474	1.98928	-0.04989	0.49133	0.46706	0.00112
Mean	**1.76998**	**0.49244**	**0.53687**	**0.48314**	**1.97952**	**-0.05480**	**0.48860**	**0.46453**	**0.00100**
%RSD	0.56372	0.06355	0.27181	0.46891	0.69739	12.66944	0.78883	0.76899	16.72419

	Pb	**Se**
	calc	calc
#1	0.48310	1.78380
#2	0.48726	1.79645
Mean	**0.48518**	**1.79012**
%RSD	0.60685	0.49976

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:54
SampleId1 : 1201354-1 **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 15:40:09
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE3

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00223	59.71556	0.06258	0.51589	3.00723	0.00473	-0.00234	86.17257	0.00070
#2	-0.00204	59.65524	0.05503	0.51692	3.00484	0.00472	-0.00257	86.19984	0.00040
Mean	**-0.00214**	**59.68540**	**0.05881**	**0.51640**	**3.00603**	**0.00472**	**-0.00245**	**86.18621**	**0.00055**
%RSD	6.34747	0.07147	9.07497	0.14183	0.05630	0.14242	6.61738	0.02237	37.57627

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.03514	0.04520	0.06650	118.19187	12.18095	0.07187	22.51038	1.65166	0.03390
#2	0.03547	0.04515	0.06649	118.13838	12.11771	0.07153	22.47750	1.65142	0.03593
Mean	**0.03531**	**0.04517**	**0.06649**	**118.16513**	**12.14933**	**0.07170**	**22.49394**	**1.65154**	**0.03491**
%RSD	0.65400	0.07217	0.01375	0.03201	0.36805	0.34192	0.10336	0.01024	4.11703

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	7.31988	0.03897	2.39348	0.14181	0.14538	5.91663	0.00243	0.07772	0.11191
#2	7.30086	0.04031	2.37802	0.14440	0.14444	5.88853	0.00020	0.07493	0.10811
Mean	**7.31037**	**0.03964**	**2.38575**	**0.14310**	**0.14491**	**5.90258**	**0.00131**	**0.07633**	**0.11001**
%RSD	0.18392	2.39197	0.45830	1.27914	0.45842	0.33665	120.31213	2.58581	2.44104

ted: 2/2/2012 17:36:05 User: MIKE LUNDGREEN

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	1.52455	0.00618	0.39036	0.15464	0.02206	0.36369	0.80613	1.11732	0.05362
#2	1.52370	-0.00127	0.39020	0.15477	0.01597	0.37574	0.80563	1.12179	0.05322
Mean	**1.52412**	**0.00246**	**0.39028**	**0.15470**	**0.01901**	**0.36971**	**0.80588**	**1.11956**	**0.05342**
%RSD	0.03940	214.36378	0.02948	0.05766	22.64736	2.30329	0.04350	0.28210	0.53456

	Pb	Se
	calc	calc
#1	0.14419	0.10053
#2	0.14443	0.09706
Mean	**0.14431**	**0.09880**
%RSD	0.11535	2.47829

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:55
SampleId1 : 1201354-1D SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 15:42:39
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE4

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00105	55.28562	0.05093	0.16422	1.37782	0.00439	-0.00192	72.21347	0.00080
#2	-0.00087	55.47794	0.05614	0.16607	1.38230	0.00442	-0.00309	72.75070	0.00096
Mean	**-0.00096**	**55.38178**	**0.05354**	**0.16515**	**1.38006**	**0.00441**	**-0.00251**	**72.48209**	**0.00088**
%RSD	13.65129	0.24554	6.89010	0.79166	0.22952	0.48386	32.80146	0.52409	13.39464

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.03199	0.04140	0.06144	112.96626	9.36851	0.06296	20.72951	1.47770	0.03593
#2	0.03291	0.04286	0.06021	113.59655	9.39475	0.06326	20.81303	1.48439	0.03196
Mean	**0.03245**	**0.04213**	**0.06083**	**113.28141**	**9.38163**	**0.06311**	**20.77127**	**1.48104**	**0.03395**
%RSD	1.99005	2.45136	1.42476	0.39343	0.19779	0.33638	0.28431	0.31928	8.25652

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	1.32470	0.03755	2.32581	0.13076	0.12996	7.08456	-0.00175	0.13380	0.13857
#2	1.33056	0.03869	2.31349	0.13852	0.13353	7.10643	0.00402	0.11348	0.14902
Mean	**1.32763**	**0.03812**	**2.31965**	**0.13464**	**0.13175**	**7.09550**	**0.00114**	**0.12364**	**0.14380**
%RSD	0.31208	2.12147	0.37561	4.07572	1.91300	0.21787	358.54606	11.61992	5.14232

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	1.48796	0.00577	0.32387	0.13615	0.01752	0.34324	0.80700	0.52561	0.04377
#2	1.49114	0.00840	0.32534	0.13661	0.01412	0.35809	0.80853	0.53096	0.04445
Mean	**1.48955**	**0.00708**	**0.32460**	**0.13638**	**0.01582**	**0.35066**	**0.80777**	**0.52828**	**0.04411**
%RSD	0.15085	26.25460	0.31877	0.24202	15.20876	2.99482	0.13344	0.71611	1.08833

	Pb	Seer: MIKE LUNDGREEN
	calc	calc
#1	0.13023	0.13698
#2	0.13519	0.13719
Mean	**0.13271**	**0.13708**
%RSD	2.64366	0.10799

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:55
SampleId1 : 1201354-1L 5X **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 15:44:53
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE5

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00078	11.56677	0.01430	0.08309	0.51000	0.00081	-0.00188	17.14923	-0.00039
#2	-0.00150	11.58847	0.01197	0.08184	0.51454	0.00079	-0.00165	17.10896	-0.00102
Mean	**-0.00114**	**11.57762**	**0.01314**	**0.08247**	**0.51227**	**0.00080**	**-0.00176**	**17.12909**	**-0.00071**
%RSD	44.67716	0.13257	12.54751	1.07796	0.62605	1.18904	9.26785	0.16623	63.31840

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00624	0.00834	0.00973	22.68907	1.52167	0.00822	4.35922	0.33184	0.00706
#2	0.00616	0.00874	0.00950	22.72542	1.50997	0.00822	4.36863	0.33160	0.00371
Mean	**0.00620**	**0.00854**	**0.00962**	**22.70725**	**1.51582**	**0.00822**	**4.36393**	**0.33172**	**0.00539**
%RSD	0.87372	3.31541	1.72747	0.11319	0.54592	0.00000	0.15246	0.05056	44.01261

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.78307	0.00722	0.49392	0.02744	0.02647	1.17582	0.00051	0.01724	0.01832
#2	0.78969	0.00695	0.48881	0.02762	0.03015	1.16334	-0.00124	0.00571	0.02409
Mean	**0.78638**	**0.00708**	**0.49136**	**0.02753**	**0.02831**	**1.16958**	**-0.00037**	**0.01147**	**0.02121**
%RSD	0.59544	2.75611	0.73568	0.46127	9.17281	0.75441	337.19521	71.06633	19.24177

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.29039	0.00282	0.07409	0.02907	0.00360	0.04670	0.16224	0.19467	0.01009
#2	0.29444	-0.00288	0.07429	0.02929	0.00620	0.04013	0.16230	0.19467	0.00974
Mean	**0.29242**	**-0.00003**	**0.07419**	**0.02918**	**0.00490**	**0.04342**	**0.16227**	**0.19467**	**0.00992**
%RSD	0.97959	15538.67552	0.18895	0.51977	37.48679	10.70598	0.02659	0.00000	2.49375

	Pb	Se
	calc	calc
#1	0.02679	0.01796
#2	0.02930	0.01797
Mean	**0.02805**	**0.01797**
%RSD	6.32566	0.03996

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:55

SampleId1 : 1201354-1MS **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 15:47:12
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE6

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.09514	89.08904	1.96955	0.37577	3.38149	0.05359	0.01095	111.42373	0.05231
#2	0.09636	88.81946	1.97832	0.37347	3.36401	0.05360	0.00300	111.80627	0.05260
Mean	**0.09575**	**88.95425**	**1.97393**	**0.37462**	**3.37275**	**0.05360**	**0.00698**	**111.61500**	**0.05245**
%RSD	0.89925	0.21429	0.31407	0.43286	0.36648	0.00630	80.50656	0.24235	0.38319

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.51734	0.25713	0.33861	126.56492	53.79988	0.61079	63.15000	2.06278	0.97977
#2	0.51824	0.25663	0.33466	126.76957	53.59116	0.60687	63.03716	2.06601	0.98048
Mean	**0.51779**	**0.25688**	**0.33664**	**126.66725**	**53.69552**	**0.60883**	**63.09358**	**2.06439**	**0.98012**
%RSD	0.12216	0.13688	0.82929	0.11424	0.27485	0.45541	0.12647	0.11082	0.05144

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	40.11078	0.53056	2.32626	0.63536	0.60959	6.02904	0.25490	1.90693	1.88241
#2	39.90385	0.53383	2.32514	0.63142	0.61943	6.10710	0.25703	1.88302	1.90362
Mean	**40.00731**	**0.53219**	**2.32570**	**0.63339**	**0.61451**	**6.06807**	**0.25596**	**1.89497**	**1.89302**
%RSD	0.36575	0.43488	0.03406	0.44074	1.13221	0.90967	0.58806	0.89233	0.79217

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	14.09943	0.51487	0.89332	0.63275	2.00513	0.44422	1.51182	0.75515	0.05667
#2	14.11056	0.50829	0.88918	0.62761	1.99231	0.40915	1.51046	0.76229	0.05585
Mean	**14.10499**	**0.51158**	**0.89125**	**0.63018**	**1.99872**	**0.42669**	**1.51114**	**0.75872**	**0.05626**
%RSD	0.05582	0.90903	0.32858	0.57741	0.45353	5.81138	0.06370	0.66529	1.04102

	Pb	**Se**
	calc	calc
#1	0.61817	1.89058
#2	0.62342	1.89676
Mean	**0.62080**	**1.89367**
%RSD	0.59779	0.23084

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:55
SampleId1 : 1201354-1MSD **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 15:49:29
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE7

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm

#1	0.09726	91.24915	1.96500	0.37288	3.44924	0.05350	-0.00029	116.36556	0.05245
#2	0.09612	91.15681	1.98198	0.37118	3.44388	0.05340	-0.00727	116.31496	0.05176
Mean	**0.09669**	**91.20298**	**1.97349**	**0.37203**	**3.44656**	**0.05345**	**-0.00378**	**116.34026**	**0.05210**
%RSD	0.82969	0.07159	0.60841	0.32339	0.10993	0.14355	130.60976	0.03075	0.92752

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.51625	0.25741	0.34027	129.62779	54.62351	0.62170	63.87644	2.12702	0.98109
#2	0.51501	0.25677	0.34062	129.52556	54.44060	0.61931	63.84369	2.12666	0.97804
Mean	**0.51563**	**0.25709**	**0.34045**	**129.57668**	**54.53206**	**0.62050**	**63.86007**	**2.12684**	**0.97956**
%RSD	0.17055	0.17723	0.07135	0.05579	0.23718	0.27273	0.03627	0.01196	0.22060

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	40.49746	0.53462	2.34598	0.63543	0.63036	6.06651	0.25835	1.88407	1.88931
#2	40.38669	0.53600	2.35628	0.63826	0.62556	6.06651	0.25727	1.87419	1.90592
Mean	**40.44208**	**0.53531**	**2.35113**	**0.63685**	**0.62796**	**6.06651**	**0.25781**	**1.87913**	**1.89762**
%RSD	0.19368	0.18232	0.30999	0.31428	0.54075	0.00000	0.29458	0.37171	0.61915

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	12.88649	0.49998	0.91540	0.60796	1.98712	0.35700	1.56382	0.74979	0.05607
#2	13.02842	0.50261	0.91403	0.60687	1.98069	0.37453	1.56520	0.75455	0.05566
Mean	**12.95746**	**0.50129**	**0.91471**	**0.60742**	**1.98390**	**0.36576**	**1.56451**	**0.75217**	**0.05587**
%RSD	0.77454	0.37158	0.10534	0.12627	0.22929	3.38963	0.06242	0.44738	0.52138

	Pb	**Se**
	calc	calc
#1	0.63205	1.88756
#2	0.62979	1.89536
Mean	**0.63092**	**1.89146**
%RSD	0.25335	0.29134

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:55
SampleId1 : 1201354-2 **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 15:51:21
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE8

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00167	41.80258	0.09299	0.00693	0.89725	0.00365	-0.00407	103.79595	0.00016
#2	-0.00180	41.98890	0.09355	0.00737	0.90207	0.00363	-0.00523	103.73412	0.00030
Mean	**-0.00173**	**41.89574**	**0.09327**	**0.00715**	**0.89966**	**0.00364**	**-0.00465**	**103.76504**	**0.00023**
%RSD	5.27712	0.31446	0.42072	4.38763	0.37894	0.35568	17.70839	0.04213	41.83516

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.02594	0.02839	0.04792	92.95195	5.96450	0.05413	17.35177	1.92682	0.07140

#2	0.02561	0.02796	0.04768	93.08753	6.03250	0.05446	17.40869	1.93065	0.06845
Mean	**0.02577**	**0.02817**	**0.04780**	**93.01974**	**5.99850**	**0.05429**	**17.38023**	**1.92874**	**0.06993**
%RSD	0.89288	1.08538	0.34564	0.10306	0.80154	0.42487	0.23155	0.14047	2.98071

	Na ppm	**Ni** ppm	**P** ppm	**Pb I** ppm	**Pb II** ppm	**S** ppm	**Sb** ppm	**Se I** ppm	**Se II** ppm
#1	0.26113	0.02442	1.84619	0.12034	0.12031	4.35876	0.00379	0.22983	0.24860
#2	0.25993	0.02611	1.84797	0.11335	0.11782	4.36500	-0.00019	0.23354	0.24552
Mean	**0.26053**	**0.02527**	**1.84708**	**0.11685**	**0.11907**	**4.36188**	**0.00180**	**0.23169**	**0.24706**
%RSD	0.32615	4.74647	0.06847	4.22580	1.47960	0.10121	156.45925	1.13486	0.87971

	Si ppm	**Sn** ppm	**Sr** ppm	**Ti** ppm	**Tl** ppm	**U** ppm	**V** ppm	**Zn** ppm	**Zr** ppm
#1	5.19711	0.00698	0.44857	0.22305	0.01757	1.44622	0.95083	0.17774	0.03726
#2	5.23825	0.00435	0.45095	0.22403	0.01359	1.43849	0.95075	0.17804	0.03782
Mean	**5.21768**	**0.00567**	**0.44976**	**0.22354**	**0.01558**	**1.44235**	**0.95079**	**0.17789**	**0.03754**
%RSD	0.55759	32.83905	0.37537	0.30727	18.09558	0.37913	0.00607	0.11802	1.05800

	Pb calc	**Se** calc
#1	0.12032	0.24235
#2	0.11633	0.24154
Mean	**0.11833**	**0.24194**
%RSD	2.38264	0.23729

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:56
SampleId1 : 1201354-3 SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 15:53:14
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE9

Final concentrations

	Ag ppm	**Al** ppm	**As** ppm	**B** ppm	**Ba** ppm	**Be** ppm	**Bi** ppm	**Ca** ppm	**Cd** ppm
#1	-0.00133	37.16636	0.10065	0.00885	1.08093	0.00368	-0.00356	97.30603	0.00072
#2	-0.00140	37.35885	0.10254	0.00782	1.09002	0.00372	-0.00217	97.21619	0.00040
Mean	**-0.00136**	**37.26261**	**0.10159**	**0.00833**	**1.08548**	**0.00370**	**-0.00286**	**97.26111**	**0.00056**
%RSD	3.91569	0.36528	1.31325	8.78430	0.59211	0.84072	34.39271	0.06531	39.92816

	Co ppm	**Cr** ppm	**Cu** ppm	**Fe** ppm	**K** ppm	**Li** ppm	**Mg** ppm	**Mn** ppm	**Mo** ppm
#1	0.02038	0.02486	0.06012	65.73685	5.55398	0.04730	15.90170	1.43806	0.11165
#2	0.01941	0.02378	0.06059	65.82323	5.55607	0.04751	15.95914	1.44045	0.11084
Mean	**0.01989**	**0.02432**	**0.06035**	**65.78004**	**5.55503**	**0.04740**	**15.93042**	**1.43925**	**0.11125**
%RSD	3.43950	3.14134	0.54636	0.09286	0.02656	0.30904	0.25497	0.11731	0.51690

	Na ppm	**Ni** ppm	**P** ppm	**Pb I** ppm	**Pb II** ppm	**S** ppm	**Sb** ppm	**Se I** ppm	**Se II** ppm
#1	0.37995	0.01976	1.57313	0.18101	0.17451	4.83949	-0.00052	0.51389	0.52226
#2	0.38167	0.01783	1.58207	0.17129	0.17799	4.83637	0.00121	0.52126	0.51839

Mean	**0.38081**	**0.01880**	**1.57760**	**0.17615**	**0.17625**	**4.83793**	**0.00034**	**0.51757**	**0.52032**
%RSD	0.31890	7.26999	0.40038	3.90141	1.39712	0.04563	353.87032	1.00633	0.52547

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	12.16782	0.00463	0.43997	0.35875	0.00610	4.05096	1.64857	0.12846	0.04389
#2	12.22034	0.00245	0.44312	0.35397	0.01268	4.06728	1.65123	0.12490	0.04337
Mean	**12.19408**	**0.00354**	**0.44155**	**0.35636**	**0.00939**	**4.05912**	**1.64990**	**0.12668**	**0.04363**
%RSD	0.30458	43.68522	0.50397	0.94864	49.49837	0.28427	0.11385	1.98845	0.84894

	Pb	**Se**
	calc	calc
#1	0.17667	0.51947
#2	0.17576	0.51934
Mean	**0.17622**	**0.51941**
%RSD	0.36661	0.01718

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:56
SampleId1 : CCV **SampleId2 :** **[CV]**
Analysis commenced : 2/2/2012 15:55:23
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD6

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.21103	51.98046	0.52286	1.00145	1.07723	0.48669	0.53087	50.45902	0.51009
#2	0.20837	51.53632	0.51309	0.99931	1.06835	0.48477	0.53804	50.25066	0.50536
Mean	**0.20970**	**51.75839**	**0.51797**	**1.00038**	**1.07279**	**0.48573**	**0.53445**	**50.35484**	**0.50773**
%RSD	0.89770	0.60676	1.33334	0.15175	0.58527	0.27971	0.94848	0.29259	0.65801

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.49402	1.00879	1.05571	20.38779	52.07730	0.52685	50.10604	1.01085	0.99647
#2	0.49178	1.00413	1.04601	20.28585	51.59126	0.52085	49.78481	1.00633	0.99535
Mean	**0.49290**	**1.00646**	**1.05086**	**20.33682**	**51.83428**	**0.52385**	**49.94543**	**1.00859**	**0.99591**
%RSD	0.32078	0.32753	0.65251	0.35446	0.66305	0.80988	0.45478	0.31724	0.07956

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	48.69245	1.01004	4.95711	1.01499	1.00399	5.18602	0.49453	1.02505	1.01329
#2	48.17450	1.00472	4.92789	1.00548	1.00557	5.14232	0.49391	1.00347	1.01613
Mean	**48.43348**	**1.00738**	**4.94250**	**1.01023**	**1.00478**	**5.16417**	**0.49422**	**1.01426**	**1.01471**
%RSD	0.75619	0.37363	0.41811	0.66592	0.11064	0.59847	0.08911	1.50487	0.19776

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	5.13002	1.03006	0.53377	0.49467	0.52281	5.19880	0.49993	0.95032	1.01441
#2	5.09356	1.02392	0.52994	0.49204	0.52240	5.15628	0.49759	0.94705	1.01070
Mean	**5.11179**	**1.02699**	**0.53186**	**0.49335**	**0.52261**	**5.17754**	**0.49876**	**0.94868**	**1.01255**

%RSD	0.50440	0.42324	0.51021	0.37603	0.05520	0.58063	0.33170	0.24401	0.25906

	Pb	Se
	calc	calc
#1	1.00766	1.01721
#2	1.00554	1.01191
Mean	**1.00660**	**1.01456**
%RSD	0.14889	0.36905

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:56
SampleId1 : CCB **SampleId2 :** **[CB]**
Analysis commenced : 2/2/2012 15:57:27
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD2

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00015	0.15284	-0.00279	-0.00268	-0.00022	0.00003	-0.01316	-0.05304	-0.00047
#2	-0.00074	0.15104	0.00143	-0.00202	-0.00001	0.00005	-0.00153	-0.03724	-0.00016
Mean	**-0.00044**	**0.15194**	**-0.00068**	**-0.00235**	**-0.00012**	**0.00004**	**-0.00735**	**-0.04514**	**-0.00032**
%RSD	93.45318	0.83958	436.49214	20.00986	125.04034	28.84629	111.98458	24.73760	70.24163

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00101	-0.00019	-0.00275	0.01018	-0.37330	-0.00328	0.02854	0.00001	-0.00188
#2	-0.00118	-0.00050	-0.00274	0.02022	-0.36703	-0.00325	0.03482	0.00024	-0.00005
Mean	**-0.00109**	**-0.00034**	**-0.00275**	**0.01520**	**-0.37016**	**-0.00326**	**0.03168**	**0.00012**	**-0.00096**
%RSD	10.63185	64.44907	0.33183	46.72227	1.19859	0.78674	14.00597	135.47279	134.23420

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.12999	-0.00079	-0.00653	0.00146	-0.00335	-0.01259	-0.00264	-0.00082	0.00117
#2	-0.12596	-0.00240	-0.00808	0.00100	0.00139	-0.01883	-0.00249	-0.00043	0.00014
Mean	**-0.12798**	**-0.00159**	**-0.00731**	**0.00123**	**-0.00098**	**-0.01571**	**-0.00257**	**-0.00062**	**0.00066**
%RSD	2.22581	71.74550	15.02562	26.08348	341.98745	28.07239	4.08472	44.00395	110.79412

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.01639	0.00023	-0.00190	-0.00186	-0.00289	-0.04263	-0.00016	-0.00243	0.00005
#2	-0.01650	-0.00547	-0.00179	-0.00203	0.00745	-0.05465	0.00011	-0.00124	0.00016
Mean	**-0.01644**	**-0.00262**	**-0.00185**	**-0.00195**	**0.00228**	**-0.04864**	**-0.00003**	**-0.00184**	**0.00010**
%RSD	0.49072	153.80140	4.13629	5.95760	321.02420	17.46340	725.36560	45.70523	76.15229

	Pb	Se
	calc	calc
#1	-0.00175	0.00051
#2	0.00126	-0.00005
Mean	**-0.00024**	**0.00023**
%RSD	871.50925	171.04039

ted: 2/2/2012 17:36:05 User: MIKE LUNDGREEN
Method : Paragon File : 120202A Printed : 2/2/2012 17:35:56
SampleId1 : 1201354-4 **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 15:59:27
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE10

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00025	29.35629	0.03850	0.00892	0.58314	0.00259	-0.00306	110.01119	0.00042
#2	-0.00199	29.41332	0.03783	0.00900	0.58474	0.00256	0.00273	109.68463	0.00000
Mean	**-0.00112**	**29.38481**	**0.03816**	**0.00896**	**0.58394**	**0.00258**	**-0.00016**	**109.84791**	**0.00021**
%RSD	110.26830	0.13723	1.23388	0.58344	0.19439	0.77189	2503.96867	0.21021	144.42025

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.03240	0.02263	0.02810	57.76040	4.96645	0.03995	11.80842	1.53443	0.03268
#2	0.03266	0.02195	0.02805	57.66783	4.94391	0.03998	11.80999	1.53180	0.03288
Mean	**0.03253**	**0.02229**	**0.02808**	**57.71411**	**4.95518**	**0.03997**	**11.80921**	**1.53312**	**0.03278**
%RSD	0.57064	2.16637	0.14555	0.11341	0.32160	0.05499	0.00938	0.12121	0.43851

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.62393	0.02864	1.17107	0.09465	0.08889	4.36812	-0.00052	0.12643	0.13049
#2	0.62359	0.02670	1.16037	0.09021	0.09089	4.40558	-0.00434	0.13121	0.13934
Mean	**0.62376**	**0.02767**	**1.16572**	**0.09243**	**0.08989**	**4.38685**	**-0.00243**	**0.12882**	**0.13491**
%RSD	0.03897	4.93850	0.64906	3.39212	1.56856	0.60378	111.22805	2.62448	4.63792

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	11.98836	0.00205	0.25949	0.31545	0.00795	0.40484	0.65898	0.14232	0.02938
#2	12.05935	-0.00013	0.26019	0.30943	0.00978	0.34596	0.65713	0.14202	0.02929
Mean	**12.02385**	**0.00096**	**0.25984**	**0.31244**	**0.00886**	**0.37540**	**0.65806**	**0.14217**	**0.02934**
%RSD	0.41753	160.98006	0.19162	1.36181	14.65616	11.09016	0.19900	0.15064	0.20843

	Pb	Se
	calc	calc
#1	0.09081	0.12914
#2	0.09066	0.13663
Mean	**0.09074**	**0.13288**
%RSD	0.11421	3.98794

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:56
SampleId1 : 1201354-5 **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 16:01:28
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE11

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00107	36.09753	0.12185	0.01107	1.53640	0.00347	0.00271	85.32053	0.00055
#2	-0.00230	36.22416	0.11852	0.01040	1.54326	0.00350	-0.01103	85.84743	0.00082
Mean	**-0.00168**	**36.16084**	**0.12019**	**0.01074**	**1.53983**	**0.00348**	**-0.00416**	**85.58398**	**0.00069**
%RSD	51.68351	0.24762	1.95902	4.38304	0.31516	0.47586	233.33898	0.43533	27.38084

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.02622	0.03195	0.04803	93.22595	5.88316	0.04455	14.72197	1.32898	0.09752
#2	0.02457	0.03149	0.04613	93.71216	5.91695	0.04458	14.74234	1.33673	0.09793
Mean	**0.02540**	**0.03172**	**0.04708**	**93.46906**	**5.90005**	**0.04456**	**14.73216**	**1.33285**	**0.09773**
%RSD	4.60191	1.01969	2.85044	0.36782	0.40497	0.04931	0.09776	0.41143	0.29420

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.90014	0.02852	1.62204	0.15146	0.14127	5.00807	0.00605	0.38183	0.38464
#2	0.90255	0.02607	1.63857	0.14127	0.14199	4.99246	0.00170	0.37596	0.39078
Mean	**0.90134**	**0.02730**	**1.63031**	**0.14637**	**0.14163**	**5.00027**	**0.00387**	**0.37889**	**0.38771**
%RSD	0.18899	6.33449	0.71693	4.92511	0.36048	0.22074	79.47700	1.09687	1.11890

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	14.28974	0.00727	0.39819	0.35615	0.00783	2.35863	1.11144	0.15868	0.04319
#2	14.29778	-0.00063	0.39967	0.36163	0.00972	2.32336	1.11617	0.16141	0.04269
Mean	**14.29376**	**0.00332**	**0.39893**	**0.35889**	**0.00877**	**2.34099**	**1.11381**	**0.16004**	**0.04294**
%RSD	0.03977	168.36106	0.26277	1.07865	15.24743	1.06516	0.30031	1.20441	0.81924

	Pb	Se
	calc	calc
#1	0.14466	0.38371
#2	0.14175	0.38584
Mean	**0.14321**	**0.38477**
%RSD	1.43842	0.39232

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:57
SampleId1 : 1201354-6 SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:03:21
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE12

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00118	34.02411	0.05170	0.00841	1.49361	0.00307	-0.00850	124.48653	-0.00008
#2	-0.00067	34.03096	0.05270	0.00959	1.49326	0.00297	0.00569	125.17833	0.00048
Mean	**-0.00093**	**34.02753**	**0.05220**	**0.00900**	**1.49344**	**0.00302**	**-0.00141**	**124.83243**	**0.00020**
%RSD	39.06002	0.01424	1.35304	9.29675	0.01658	2.33861	714.45149	0.39187	197.21701

Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo

	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.02549	0.02599	0.03986	68.42955	5.60781	0.04466	14.55485	1.36000	0.08594
#2	0.02706	0.02609	0.04020	68.63033	5.61073	0.04467	14.56007	1.36322	0.08482
Mean	**0.02627**	**0.02604**	**0.04003**	**68.52994**	**5.60927**	**0.04466**	**14.55746**	**1.36161**	**0.08538**
%RSD	4.23722	0.29505	0.60410	0.20717	0.03682	0.00820	0.02537	0.16732	0.92605

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	1.14725	0.02702	1.56398	0.13179	0.13404	4.13089	-0.00216	0.37297	0.39074
#2	1.14381	0.02761	1.53740	0.13427	0.12813	4.14962	-0.00085	0.37857	0.38992
Mean	**1.14553**	**0.02732**	**1.55069**	**0.13303**	**0.13109**	**4.14026**	**-0.00151**	**0.37577**	**0.39033**
%RSD	0.21262	1.53143	1.21167	1.31812	3.19193	0.31986	61.60388	1.05523	0.14890

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	11.99391	0.00073	0.41806	0.32380	0.00791	2.52834	1.03450	0.15171	0.04207
#2	11.95744	0.00205	0.41813	0.32064	0.00757	2.54786	1.03718	0.15414	0.04307
Mean	**11.97568**	**0.00139**	**0.41809**	**0.32222**	**0.00774**	**2.53810**	**1.03584**	**0.15293**	**0.04257**
%RSD	0.21530	67.24778	0.01223	0.69207	3.12696	0.54364	0.18300	1.12039	1.65858

	Pb	**Se**
	calc	calc
#1	0.13329	0.38482
#2	0.13017	0.38614
Mean	**0.13173**	**0.38548**
%RSD	1.67533	0.24197

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:57
SampleId1 : 1201354-7 SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:05:14
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE13

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00005	40.05348	0.08156	0.01033	1.18058	0.00339	0.00578	296.84764	0.00079
#2	-0.00117	40.00234	0.07424	0.00937	1.17743	0.00337	-0.00563	296.96774	0.00041
Mean	**-0.00061**	**40.02791**	**0.07790**	**0.00985**	**1.17901**	**0.00338**	**0.00008**	**296.90769**	**0.00060**
%RSD	129.83681	0.09034	6.64948	6.90144	0.18877	0.30928	10621.35086	0.02860	44.06531

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.02983	0.03360	0.04838	82.75483	7.48455	0.05972	17.31888	1.85296	0.04325
#2	0.02983	0.03316	0.04826	82.71242	7.48788	0.05965	17.28285	1.85057	0.04192
Mean	**0.02983**	**0.03338**	**0.04832**	**82.73363**	**7.48621**	**0.05968**	**17.30087**	**1.85176**	**0.04259**
%RSD	0.00019	0.91868	0.16851	0.03625	0.03150	0.08587	0.14725	0.09140	2.19390

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm

#1	0.67680	0.04390	1.84171	0.13048	0.12550	4.58351	0.00103	0.29046	0.30383
#2	0.67791	0.04433	1.84328	0.12274	0.12104	4.62097	-0.00188	0.27747	0.30357
Mean	**0.67735**	**0.04412**	**1.84250**	**0.12661**	**0.12327**	**4.60224**	**-0.00043**	**0.28396**	**0.30370**
%RSD	0.11666	0.69535	0.06006	4.32131	2.55790	0.57555	480.40602	3.23404	0.06218

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	16.16795	-0.00214	0.49302	0.52382	0.01164	1.35601	0.84909	0.19685	0.04632
#2	16.12140	0.00137	0.49202	0.52168	0.01173	1.35058	0.85043	0.19836	0.04627
Mean	**16.14467**	**-0.00038**	**0.49252**	**0.52275**	**0.01169**	**1.35330**	**0.84976**	**0.19760**	**0.04630**
%RSD	0.20389	651.58577	0.14288	0.28834	0.53938	0.28367	0.11150	0.54199	0.07086

	Pb	**Se**
	calc	calc
#1	0.12716	0.29938
#2	0.12161	0.29488
Mean	**0.12438**	**0.29713**
%RSD	3.15564	1.07161

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:57
SampleId1 : 1201354-8 SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:07:07
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE14

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00158	51.81947	0.07113	0.01632	0.72066	0.00483	0.00064	80.27883	0.00019
#2	-0.00185	51.95146	0.06680	0.01713	0.72332	0.00478	-0.00471	80.20676	0.00055
Mean	**-0.00172**	**51.88546**	**0.06896**	**0.01673**	**0.72199**	**0.00480**	**-0.00204**	**80.24279**	**0.00037**
%RSD	11.04794	0.17987	4.43830	3.43872	0.25988	0.79070	186.10325	0.06351	67.69514

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.04651	0.04646	0.07865	110.41670	11.24635	0.06428	19.80504	1.57457	0.10342
#2	0.04661	0.04682	0.07876	110.46129	11.27964	0.06465	19.84419	1.57720	0.10342
Mean	**0.04656**	**0.04664**	**0.07871**	**110.43899**	**11.26300**	**0.06447**	**19.82462**	**1.57589**	**0.10342**
%RSD	0.14314	0.53361	0.09922	0.02855	0.20904	0.40877	0.13965	0.11795	0.00000

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	1.02827	0.05585	2.13657	0.13142	0.13452	9.98995	0.00171	0.12628	0.15136
#2	1.03490	0.05585	2.15269	0.13245	0.13568	10.06808	0.00343	0.12695	0.15550
Mean	**1.03159**	**0.05585**	**2.14463**	**0.13194**	**0.13510**	**10.02901**	**0.00257**	**0.12662**	**0.15343**
%RSD	0.45431	0.00000	0.53144	0.55066	0.60816	0.55083	47.17948	0.37473	1.90852

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	13.50315	0.00326	0.61014	0.40892	0.01847	2.67770	0.54058	0.28531	0.05018

#2	13.60602	0.00019	0.61199	0.40512	0.01524	2.68749	0.54555	0.28501	0.04935
Mean	**13.55458**	**0.00173**	**0.61106**	**0.40702**	**0.01685**	**2.68260**	**0.54307**	**0.28516**	**0.04977**
%RSD	0.53664	125.50203	0.21382	0.65962	13.56855	0.25818	0.64740	0.07513	1.17502

	Pb	**Se**
	calc	calc
#1	0.13349	0.14301
#2	0.13461	0.14599
Mean	**0.13405**	**0.14450**
%RSD	0.58931	1.46098

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:57
SampleId1 : 1201354-9 SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:09:08
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE15

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00137	44.10507	0.09865	0.01070	0.73295	0.00403	-0.00319	150.82734	0.00065
#2	-0.00267	43.88158	0.09410	0.00892	0.73072	0.00392	-0.00995	148.55993	-0.00023
Mean	**-0.00202**	**43.99332**	**0.09638**	**0.00981**	**0.73184**	**0.00398**	**-0.00657**	**149.69363**	**0.00021**
%RSD	45.35659	0.35922	3.33869	12.78913	0.21591	1.96504	72.78695	1.07105	293.73697

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.03087	0.03580	0.04705	110.77206	7.67964	0.05973	19.44588	1.87941	0.07201
#2	0.02897	0.03447	0.04455	109.39208	7.63837	0.05957	19.26003	1.85907	0.07059
Mean	**0.02992**	**0.03514**	**0.04580**	**110.08207**	**7.65900**	**0.05965**	**19.35296**	**1.86924**	**0.07130**
%RSD	4.49655	2.67911	3.86592	0.88642	0.38100	0.19024	0.67904	0.76974	1.41127

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.37471	0.03846	2.07927	0.11973	0.11946	4.50859	0.00015	0.22255	0.25333
#2	0.37016	0.03578	2.05063	0.10693	0.12460	4.49298	0.00042	0.20830	0.24891
Mean	**0.37244**	**0.03712**	**2.06495**	**0.11333**	**0.12203**	**4.50079**	**0.00028**	**0.21543**	**0.25112**
%RSD	0.86406	5.10928	0.98091	7.98864	2.98188	0.24521	67.00638	4.67797	1.24289

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	7.47164	-0.00365	0.40932	0.31862	0.01538	1.46247	1.54276	0.23078	0.04451
#2	7.38782	0.00292	0.40744	0.31912	0.00347	1.42848	1.53021	0.22593	0.04404
Mean	**7.42973**	**-0.00036**	**0.40838**	**0.31887**	**0.00942**	**1.44547**	**1.53649**	**0.22835**	**0.04428**
%RSD	0.79772	1281.18332	0.32558	0.10910	89.41091	1.66280	0.57765	1.50097	0.73770

	Pb	**Se**
	calc	calc
#1	0.11955	0.24308
#2	0.11872	0.23539

Mean	**0.11913**	**0.23923er: MIKE LUNDGREEN**
%RSD	0.49336	2.27294

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:57
SampleId1 : 1201354-10 SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:11:09
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE16

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00199	67.10127	0.04793	0.01795	0.77583	0.00574	-0.00121	136.86737	0.00070
#2	-0.00172	66.88770	0.04926	0.01735	0.77360	0.00570	0.00389	136.21801	0.00059
Mean	**-0.00185**	**66.99448**	**0.04860**	**0.01765**	**0.77472**	**0.00572**	**0.00134**	**136.54269**	**0.00064**
%RSD	10.16221	0.22542	1.93797	2.36992	0.20399	0.56679	269.12930	0.33629	12.18239

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.05921	0.06290	0.11267	140.87651	15.29077	0.08603	22.50829	2.00239	0.00920
#2	0.05889	0.06135	0.11025	140.25346	15.21931	0.08572	22.43888	1.99640	0.01022
Mean	**0.05905**	**0.06213**	**0.11146**	**140.56499**	**15.25504**	**0.08588**	**22.47359**	**1.99940**	**0.00971**
%RSD	0.37750	1.76122	1.53399	0.31342	0.33124	0.25978	0.21840	0.21182	7.40294

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.68728	0.08551	3.01801	0.12542	0.12511	5.85730	-0.00308	-0.01057	0.01946
#2	0.68849	0.08350	2.94791	0.12489	0.12259	5.86042	0.00157	-0.01006	0.02948
Mean	**0.68788**	**0.08450**	**2.98296**	**0.12515**	**0.12385**	**5.85886**	**-0.00076**	**-0.01032**	**0.02447**
%RSD	0.12372	1.68310	1.66167	0.29771	1.43505	0.03768	433.49067	3.50036	28.96430

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	14.41718	0.00540	0.44421	0.45357	0.01382	0.28276	0.21634	0.37440	0.05645
#2	14.33000	0.00015	0.44256	0.44499	0.01892	0.28209	0.21541	0.37259	0.05612
Mean	**14.37359**	**0.00277**	**0.44338**	**0.44928**	**0.01637**	**0.28242**	**0.21588**	**0.37350**	**0.05629**
%RSD	0.42889	133.87600	0.26248	1.34996	22.04782	0.16706	0.30474	0.34428	0.41769

	Pb	Se
	calc	calc
#1	0.12521	0.00946
#2	0.12336	0.01631
Mean	**0.12428**	**0.01289**
%RSD	1.05366	37.62081

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:58
SampleId1 : 1201354-11 SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:13:02
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE17

Final concentrations:05 **User: MIKE LUNDGREEN**

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00113	47.89922	0.16713	0.00989	0.74043	0.00435	-0.00485	72.48128	0.00057
#2	-0.00132	47.44356	0.16747	0.01018	0.73240	0.00430	-0.00230	71.66935	0.00071
Mean	**-0.00123**	**47.67139**	**0.16730**	**0.01003**	**0.73641**	**0.00433**	**-0.00357**	**72.07532**	**0.00064**
%RSD	10.92824	0.67589	0.14073	2.08440	0.77111	0.79534	50.42539	0.79655	15.48530

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.03950	0.03493	0.07291	114.18188	9.17855	0.06991	19.22401	1.95173	0.18638
#2	0.03768	0.03346	0.07316	112.80308	9.04441	0.06895	19.05956	1.93389	0.18302
Mean	**0.03859**	**0.03420**	**0.07304**	**113.49248**	**9.11148**	**0.06943**	**19.14179**	**1.94281**	**0.18470**
%RSD	3.33049	3.02425	0.24571	0.85905	1.04102	0.97509	0.60748	0.64939	1.28451

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.67069	0.04414	2.13142	0.16121	0.15810	7.98412	0.00149	0.63222	0.65633
#2	0.66167	0.04217	2.10300	0.16208	0.15573	7.90603	0.00373	0.64611	0.65191
Mean	**0.66618**	**0.04315**	**2.11721**	**0.16165**	**0.15692**	**7.94507**	**0.00261**	**0.63917**	**0.65412**
%RSD	0.95805	3.23146	0.94943	0.37902	1.06731	0.69502	60.71284	1.53691	0.47838

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	8.67589	0.00733	0.36655	0.30346	0.02385	2.95352	1.36560	0.26198	0.05460
#2	8.54524	0.01215	0.36216	0.29890	0.02488	2.94245	1.34987	0.25956	0.05426
Mean	**8.61056**	**0.00974**	**0.36436**	**0.30118**	**0.02437**	**2.94798**	**1.35773**	**0.26077**	**0.05443**
%RSD	1.07288	35.04556	0.85230	1.07213	3.00147	0.26553	0.81944	0.65725	0.44544

	Pb	Se
	calc	calc
#1	0.15914	0.64830
#2	0.15785	0.64998
Mean	**0.15849**	**0.64914**
%RSD	0.57609	0.18240

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:58
SampleId1 : 1201354-12 SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:15:03
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE18

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00111	27.71180	0.01463	0.00678	0.47281	0.00248	-0.00029	9.96767	0.00013
#2	-0.00039	27.57958	0.01918	0.00700	0.46905	0.00243	0.00156	9.93816	0.00065
Mean	**-0.00075**	**27.64569**	**0.01691**	**0.00689**	**0.47093**	**0.00245**	**0.00064**	**9.95291**	**0.00039**
%RSD	67.76122	0.33818	19.03019	2.27620	0.56568	1.56756	206.49208	0.20961	92.95031

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	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.01996	0.03225	0.03167	71.62442	7.07805	0.02047	8.91189	1.15583	0.00280
#2	0.02120	0.03280	0.03323	71.37194	6.99799	0.02029	8.89465	1.15214	0.00117
Mean	**0.02058**	**0.03252**	**0.03245**	**71.49818**	**7.03802**	**0.02038**	**8.90327**	**1.15399**	**0.00198**
%RSD	4.28603	1.19643	3.40388	0.24971	0.80433	0.64761	0.13695	0.22639	57.96526

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.04268	0.03688	1.51128	0.06262	0.05702	2.30522	0.00155	-0.00359	0.00982
#2	0.04080	0.03739	1.49476	0.06168	0.05877	2.30834	-0.00203	0.00088	0.01382
Mean	**0.04174**	**0.03714**	**1.50302**	**0.06215**	**0.05789**	**2.30678**	**-0.00024**	**-0.00136**	**0.01182**
%RSD	3.19635	0.97626	0.77721	1.07256	2.13585	0.09565	1049.03180	233.07069	23.87623

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	4.75623	0.00552	0.07470	0.35149	0.01065	0.01447	0.08190	0.17231	0.03168
#2	4.69297	-0.00193	0.07420	0.34460	0.02010	0.02447	0.08115	0.17170	0.03248
Mean	**4.72460**	**0.00180**	**0.07445**	**0.34804**	**0.01538**	**0.01947**	**0.08152**	**0.17201**	**0.03208**
%RSD	0.94688	293.24766	0.47929	1.39931	43.44228	36.29557	0.65113	0.24904	1.76695

	Pb	Se
	calc	calc
#1	0.05889	0.00536
#2	0.05974	0.00951
Mean	**0.05931**	**0.00743**
%RSD	1.01632	39.49886

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:58
SampleId1 : 1201354-13 SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:16:56
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE19

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00098	57.44101	0.06791	0.01491	0.98292	0.00606	0.01092	43.39259	0.00086
#2	-0.00182	57.33626	0.06347	0.01381	0.98187	0.00599	0.00696	43.06513	0.00091
Mean	**-0.00140**	**57.38864**	**0.06569**	**0.01436**	**0.98240**	**0.00602**	**0.00894**	**43.22886**	**0.00089**
%RSD	42.71662	0.12907	4.77900	5.46185	0.07546	0.81828	31.38251	0.53564	4.03624

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.06599	0.07072	0.09299	266.48378	21.55162	0.06054	26.32953	2.57416	0.00158
#2	0.06484	0.06910	0.09240	264.55440	21.55162	0.06053	26.23145	2.55998	0.00087
Mean	**0.06542**	**0.06991**	**0.09269**	**265.51909**	**21.55162**	**0.06054**	**26.28049**	**2.56707**	**0.00122**
%RSD	1.24463	1.63716	0.44809	0.51382	0.00000	0.00605	0.26391	0.39067	41.18575

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	1.22080	0.07202	4.04853	0.10736	0.10092	18.08377	0.00670	-0.03590	0.01591
#2	1.22528	0.07186	4.00226	0.09628	0.10840	18.03056	-0.00135	-0.04615	0.02025
Mean	**1.22304**	**0.07194**	**4.02540**	**0.10182**	**0.10466**	**18.05717**	**0.00267**	**-0.04102**	**0.01808**
%RSD	0.25896	0.15506	0.81266	7.69371	5.05189	0.20836	213.18598	17.67544	16.96675

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	4.56468	0.00342	0.38694	0.26896	0.03545	0.13938	0.18525	0.37471	0.04358
#2	4.48872	0.00342	0.38627	0.26630	0.03396	0.12323	0.18315	0.36986	0.04267
Mean	**4.52670**	**0.00342**	**0.38661**	**0.26763**	**0.03470**	**0.13131**	**0.18420**	**0.37228**	**0.04313**
%RSD	1.18654	0.06396	0.12233	0.70327	3.03229	8.69697	0.80662	0.92106	1.48225

	Pb	Se
	calc	calc
#1	0.10307	-0.00134
#2	0.10437	-0.00186
Mean	**0.10372**	**-0.00160**
%RSD	0.88504	23.02152

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:58
SampleId1 : CCV **SampleId2 :** **[CV]**
Analysis commenced : 2/2/2012 16:19:19
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD6

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.21312	52.22613	0.53451	1.01034	1.08177	0.48999	0.54090	50.45437	0.50878
#2	0.21115	52.08788	0.52463	1.00886	1.07904	0.48934	0.53531	50.37962	0.50824
Mean	**0.21214**	**52.15701**	**0.52957**	**1.00960**	**1.08041**	**0.48967**	**0.53811**	**50.41700**	**0.50851**
%RSD	0.65553	0.18742	1.31895	0.10370	0.17846	0.09368	0.73501	0.10484	0.07565

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.49426	1.01034	1.06484	20.39408	52.06422	0.52699	50.43820	1.01216	1.00248
#2	0.49492	1.00780	1.06196	20.38034	51.95059	0.52569	50.30804	1.01026	0.99790
Mean	**0.49459**	**1.00907**	**1.06340**	**20.38721**	**52.00740**	**0.52634**	**50.37312**	**1.01121**	**1.00019**
%RSD	0.09393	0.17768	0.19124	0.04765	0.15450	0.17364	0.18270	0.13323	0.32409

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	48.75992	1.00559	4.98815	1.01701	1.00276	5.24222	0.50318	1.01743	1.00584
#2	48.58353	1.00701	5.01738	1.00841	1.00698	5.19539	0.49668	1.02586	1.01052
Mean	**48.67172**	**1.00630**	**5.00277**	**1.01271**	**1.00487**	**5.21881**	**0.49993**	**1.02164**	**1.00818**
%RSD	0.25627	0.09974	0.41317	0.60000	0.29692	0.63452	0.92022	0.58353	0.32780

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr

	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	5.16991	1.04456	0.53611	0.49738	0.53349	5.20971	0.49972	0.96835	1.01823
#2	5.16277	1.03665	0.53491	0.49721	0.51730	5.19989	0.49988	0.96593	1.01651
Mean	**5.16634**	**1.04060**	**0.53551**	**0.49730**	**0.52540**	**5.20480**	**0.49980**	**0.96714**	**1.01737**
%RSD	0.09774	0.53732	0.15776	0.02332	2.17928	0.13338	0.02252	0.17758	0.11952

	Pb	**Se**
	calc	calc
#1	1.00750	1.00970
#2	1.00745	1.01563
Mean	**1.00748**	**1.01266**
%RSD	0.00331	0.41371

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:58
SampleId1 : CCB **SampleId2 :** **[CB]**
Analysis commenced : 2/2/2012 16:21:26
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD2

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00022	0.15671	-0.00068	-0.00268	-0.00043	0.00009	-0.00477	-0.05529	-0.00057
#2	-0.00070	0.15678	-0.00179	-0.00246	-0.00050	0.00009	-0.01036	-0.04852	-0.00060
Mean	**-0.00024**	**0.15674**	**-0.00124**	**-0.00257**	**-0.00047**	**0.00009**	**-0.00757**	**-0.05191**	**-0.00059**
%RSD	270.60522	0.03238	63.38406	6.09502	10.55933	0.81174	52.21927	9.21948	3.96192

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00060	0.00063	-0.00292	0.01435	-0.37916	-0.00330	0.03220	0.00012	0.00005
#2	-0.00076	0.00072	-0.00266	0.02269	-0.39003	-0.00331	0.02802	0.00001	0.00137
Mean	**-0.00068**	**0.00067**	**-0.00279**	**0.01852**	**-0.38459**	**-0.00331**	**0.03011**	**0.00006**	**0.00071**
%RSD	17.07975	9.33749	6.61922	31.85398	1.99962	0.11098	9.82377	130.00444	130.98072

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.13282	-0.00027	-0.01008	0.00232	-0.00282	-0.02195	-0.00250	0.00323	0.00134
#2	-0.13222	-0.00150	-0.00032	0.00273	0.00063	-0.01883	0.00002	-0.00241	-0.00545
Mean	**-0.13252**	**-0.00088**	**-0.00520**	**0.00252**	**-0.00110**	**-0.02039**	**-0.00124**	**0.00041**	**-0.00205**
%RSD	0.32013	97.82080	132.72454	11.57635	222.26917	10.81576	143.37487	966.14228	234.09425

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.01881	-0.00459	-0.00185	-0.00210	0.00747	-0.00444	0.00038	-0.00212	0.00043
#2	-0.01417	-0.00459	-0.00187	-0.00246	-0.00085	-0.02191	-0.00059	-0.00272	0.00027
Mean	**-0.01649**	**-0.00459**	**-0.00186**	**-0.00228**	**0.00331**	**-0.01317**	**-0.00011**	**-0.00242**	**0.00035**
%RSD	19.92348	0.00633	0.68604	10.95096	177.73208	93.78614	642.07672	17.70755	33.53769

	Pb	**Se**
	calc	calc

#1	-0.00111	0.00197
#2	0.00133	-0.00444
Mean	**0.00011**	**-0.00123**
%RSD	1582.94962	368.15725

er: MIKE LUNDGREEN

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:59
SampleId1 : EX120201-2MB SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:23:45
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE20

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00043	0.11005	-0.00146	0.00737	-0.00008	-0.00007	-0.01386	-0.06620	-0.00063
#2	-0.00016	0.11903	-0.00168	0.00796	-0.00001	-0.00006	-0.01130	-0.06544	-0.00097
Mean	**-0.00029**	**0.11454**	**-0.00157**	**0.00767**	**-0.00005**	**-0.00007**	**-0.01258**	**-0.06582**	**-0.00080**
%RSD	64.15243	5.54282	9.99027	5.45526	101.52161	7.45568	14.39037	0.80786	30.39365

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00192	-0.00079	-0.00374	-0.01222	-0.39422	-0.00351	0.00083	-0.00059	-0.00249
#2	-0.00101	-0.00150	-0.00362	-0.01176	-0.41597	-0.00354	-0.00440	-0.00070	-0.00350
Mean	**-0.00146**	**-0.00115**	**-0.00368**	**-0.01199**	**-0.40509**	**-0.00353**	**-0.00179**	**-0.00065**	**-0.00300**
%RSD	43.90974	44.13379	2.28137	2.73272	3.79692	0.62424	206.95301	12.95993	23.98437

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	141.25450	-0.00153	-0.00453	-0.00035	-0.00091	-0.02507	-0.00198	-0.00375	0.00383
#2	140.58168	-0.00019	-0.00032	0.00021	0.00271	-0.01259	-0.00264	0.00201	0.00117
Mean	**140.91809**	**-0.00086**	**-0.00243**	**-0.00007**	**0.00090**	**-0.01883**	**-0.00231**	**-0.00087**	**0.00250**
%RSD	0.33761	109.73584	122.78921	569.69493	282.99484	46.84578	20.24512	469.64467	75.39252

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00191	-0.00021	-0.00205	-0.00237	-0.00110	-0.02843	-0.00098	-0.00181	0.00003
#2	0.00288	0.00330	-0.00210	-0.00279	0.00464	-0.02625	-0.00135	-0.00333	-0.00056
Mean	**0.00239**	**0.00155**	**-0.00207**	**-0.00258**	**0.00177**	**-0.02734**	**-0.00117**	**-0.00257**	**-0.00027**
%RSD	28.71565	160.49657	1.84348	11.42188	228.84105	5.64515	22.92225	41.66066	154.84777

	Pb	**Se**
	calc	calc
#1	-0.00072	0.00131
#2	0.00188	0.00145
Mean	**0.00058**	**0.00138**
%RSD	317.31919	7.15797

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:59
SampleId1 : EX120201-2RVS SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:25:38

Dilution ratio : 1.00000 to 1.00000   Tray :   Position : TUBE21

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00956	1.07265	0.04660	0.04420	0.04979	0.00947	0.08819	4.71126	0.01938
#2	0.01002	1.08606	0.04305	0.04560	0.05000	0.00952	0.09099	4.71955	0.01898
Mean	**0.00979**	**1.07935**	**0.04482**	**0.04490**	**0.04989**	**0.00949**	**0.08959**	**4.71540**	**0.01918**
%RSD	3.28139	0.87850	5.60300	2.21269	0.29617	0.32779	2.20925	0.12440	1.47705

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.01770	0.04792	0.04595	0.96172	7.52874	0.03429	4.66607	0.04806	0.09752
#2	0.01803	0.04867	0.04715	0.96622	7.56584	0.03448	4.67757	0.04842	0.09813
Mean	**0.01786**	**0.04830**	**0.04655**	**0.96397**	**7.54729**	**0.03438**	**4.67182**	**0.04824**	**0.09783**
%RSD	1.30737	1.09462	1.81821	0.32976	0.34761	0.39432	0.17406	0.52059	0.44084

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	7.66860	0.04745	0.91618	0.04725	0.04816	0.94498	0.09156	0.04274	0.04368
#2	7.71532	0.04832	0.93155	0.04868	0.04727	0.95745	0.09010	0.05133	0.04334
Mean	**7.69196**	**0.04788**	**0.92386**	**0.04796**	**0.04772**	**0.95121**	**0.09083**	**0.04703**	**0.04351**
%RSD	0.42946	1.28131	1.17604	2.10983	1.31757	0.92755	1.13525	12.90001	0.55811

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.25223	0.09312	0.04778	0.04440	0.09752	0.46207	0.04796	0.04754	0.04912
#2	0.25025	0.09532	0.04791	0.04449	0.10067	0.47407	0.04904	0.04330	0.04925
Mean	**0.25124**	**0.09422**	**0.04784**	**0.04444**	**0.09910**	**0.46807**	**0.04850**	**0.04542**	**0.04919**
%RSD	0.55536	1.64528	0.18641	0.14051	2.25198	1.81333	1.57534	6.59951	0.18532

	Pb	Se
	calc	calc
#1	0.04786	0.04337
#2	0.04774	0.04600
Mean	**0.04780**	**0.04468**
%RSD	0.17229	4.15924

Method : Paragon   File : 120202A   Printed : 2/2/2012 17:35:59
SampleId1 : EX120201-2LCS   SampleId2 :   [SAMPLE]
Analysis commenced : 2/2/2012 16:27:32
Dilution ratio : 1.00000 to 1.00000   Tray :   Position : TUBE22

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.09934	2.36891	1.98475	0.49569	2.15138	0.04833	-0.00547	38.62788	0.05184
#2	0.09736	2.35415	1.97698	0.49154	2.14156	0.04821	-0.00594	38.43786	0.05178

Mean	**0.09835**	**2.36153**	**1.98087**	**0.49362**	**2.14647**	**0.04827**	**-0.00571**	**38.53287**	**0.05181**
%RSD	1.42704	0.44211	0.27732	0.59351	0.32368	0.18169	5.76384	0.34871	0.09322

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.49000	0.20048	0.26691	1.01056	50.27689	0.58627	37.35758	0.50388	1.00289
#2	0.48628	0.19909	0.26762	1.00420	50.01138	0.58328	37.27627	0.50103	0.99087
Mean	**0.48814**	**0.19978**	**0.26726**	**1.00738**	**50.14414**	**0.58478**	**37.31692**	**0.50246**	**0.99688**
%RSD	0.53963	0.49289	0.18994	0.44619	0.37440	0.36161	0.15407	0.40095	0.85265

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	173.87868	0.50055	-0.00276	0.50178	0.48743	-0.00324	0.48066	1.94409	1.90648
#2	172.75541	0.50224	-0.00542	0.49439	0.48356	-0.00947	0.47834	1.93981	1.91336
Mean	**173.31705**	**0.50139**	**-0.00409**	**0.49808**	**0.48550**	**-0.00636**	**0.47950**	**1.94195**	**1.90992**
%RSD	0.45827	0.23914	46.01145	1.04906	0.56317	69.40134	0.34278	0.15582	0.25477

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	2.03203	0.52074	0.53808	0.48787	2.07204	-0.05423	0.50271	0.48353	0.00134
#2	2.02051	0.51197	0.53528	0.48609	2.06049	-0.04768	0.50136	0.47989	0.00057
Mean	**2.02627**	**0.51636**	**0.53668**	**0.48698**	**2.06626**	**-0.05095**	**0.50203**	**0.48171**	**0.00096**
%RSD	0.40223	1.20165	0.36970	0.25824	0.39529	9.09396	0.19015	0.53404	56.68070

	Pb	**Se**
	calc	calc
#1	0.49221	1.91900
#2	0.48717	1.92217
Mean	**0.48969**	**1.92058**
%RSD	0.72774	0.11652

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:59
SampleId1 : 1201363-11 **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 16:29:26
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE23

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00076	1.81216	0.00187	0.00981	0.08629	0.00003	-0.00793	21.95283	-0.00010
#2	-0.00055	1.81417	-0.00290	0.00944	0.08643	0.00004	-0.00747	21.84998	-0.00045
Mean	**-0.00065**	**1.81317**	**-0.00052**	**0.00963**	**0.08636**	**0.00003**	**-0.00770**	**21.90140**	**-0.00028**
%RSD	22.98847	0.07818	653.05382	2.71556	0.11409	22.34226	4.25114	0.33208	89.51437

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00130	0.00108	-0.00120	1.16859	1.07692	-0.00023	9.57235	0.38568	-0.00208
#2	0.00072	0.00081	-0.00166	1.16502	1.05560	-0.00027	9.56295	0.38521	-0.00096
Mean	**0.00101**	**0.00094**	**-0.00143**	**1.16681**	**1.06626**	**-0.00025**	**9.56765**	**0.38545**	**-0.00152**

%RSD	40.66026	19.98756	22.89431	0.21623	1.41388	11.61875	0.06951	0.08705	51.91714

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	129.30372	0.00095	0.05957	0.00235	0.00230	0.17766	-0.00107	-0.00047	0.00313
#2	129.15974	0.00134	0.06201	-0.00108	0.00761	0.17766	-0.00145	-0.00357	0.00528
Mean	**129.23173**	**0.00115**	**0.06079**	**0.00063**	**0.00495**	**0.17766**	**-0.00126**	**-0.00202**	**0.00420**
%RSD	0.07878	24.30642	2.83852	383.95648	75.77844	0.00000	21.63849	108.28031	36.17988

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	3.67718	-0.00334	0.07731	0.05381	0.00085	-0.02923	0.00174	0.12082	0.00131
#2	3.67763	0.00104	0.07719	0.05601	-0.00108	-0.04997	0.00114	0.12112	0.00138
Mean	**3.67740**	**-0.00115**	**0.07725**	**0.05491**	**-0.00012**	**-0.03960**	**0.00144**	**0.12097**	**0.00134**
%RSD	0.00872	268.96659	0.11548	2.82695	1162.43703	37.02346	29.22803	0.17702	3.85827

	Pb	**Se**
	calc	calc
#1	0.00232	0.00193
#2	0.00471	0.00233
Mean	**0.00352**	**0.00213**
%RSD	48.22869	13.35588

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:00
SampleId1 : 1201363-11D SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:31:20
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE24

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00044	1.83582	-0.00568	0.01055	0.08734	0.00005	-0.00443	22.20009	0.00015
#2	0.00023	1.84249	-0.00046	0.01055	0.08762	0.00003	-0.00606	22.13875	-0.00041
Mean	**-0.00011**	**1.83915**	**-0.00307**	**0.01055**	**0.08748**	**0.00004**	**-0.00525**	**22.16942**	**-0.00013**
%RSD	441.21602	0.25645	120.16969	0.00000	0.22526	21.08859	22.03068	0.19566	308.31729

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00088	0.00056	-0.00157	1.17604	1.10534	-0.00025	9.68991	0.39007	-0.00228
#2	0.00105	0.00131	-0.00144	1.17821	1.09280	-0.00024	9.67162	0.38936	0.00127
Mean	**0.00097**	**0.00093**	**-0.00151**	**1.17712**	**1.09907**	**-0.00025**	**9.68077**	**0.38972**	**-0.00051**
%RSD	12.46882	57.29373	5.89695	0.13047	0.80685	2.96560	0.13357	0.12915	496.77887

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	130.51198	0.00182	0.05868	0.00280	0.00137	0.17142	-0.00490	0.00087	0.00003
#2	130.02998	0.00091	0.05735	0.00286	0.00137	0.17454	-0.00118	0.00542	0.00055
Mean	**130.27098**	**0.00136**	**0.05802**	**0.00283**	**0.00137**	**0.17298**	**-0.00304**	**0.00315**	**0.00029**
%RSD	0.26163	47.01594	1.62227	1.53831	0.19788	1.27495	86.52907	102.16396	125.91361

ted: 2/2/2012 17:36:05 User: MIKE LUNDGREEN

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	3.72025	0.00279	0.07775	0.05814	-0.00465	-0.01832	0.00168	0.12234	0.00172
#2	3.74294	-0.00597	0.07766	0.05560	-0.00038	-0.02269	0.00212	0.12203	0.00170
Mean	**3.73159**	**-0.00159**	**0.07770**	**0.05687**	**-0.00252**	**-0.02051**	**0.00190**	**0.12218**	**0.00171**
%RSD	0.42994	389.17854	0.08201	3.15297	119.91184	15.05791	16.09538	0.17527	0.93078

	Pb	Se
	calc	calc
#1	0.00184	0.00031
#2	0.00187	0.00217
Mean	**0.00186**	**0.00124**
%RSD	0.87868	105.86465

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:00
SampleId1 : 1201363-11L 5X SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:33:35
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE25

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00087	0.40057	0.00187	-0.00098	0.01573	-0.00015	-0.00082	4.33573	-0.00047
#2	-0.00044	0.40134	0.00276	-0.00098	0.01601	-0.00014	-0.00429	4.33158	-0.00023
Mean	**-0.00065**	**0.40095**	**0.00231**	**-0.00098**	**0.01587**	**-0.00015**	**-0.00255**	**4.33366**	**-0.00035**
%RSD	46.69366	0.13672	27.13888	0.00000	1.24164	1.84972	96.24560	0.06766	48.12334

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00109	-0.00014	-0.00395	0.22283	-0.12191	-0.00272	1.88796	0.07695	-0.00239
#2	-0.00010	0.00008	-0.00303	0.22221	-0.12903	-0.00273	1.88378	0.07707	-0.00279
Mean	**-0.00060**	**-0.00003**	**-0.00349**	**0.22252**	**-0.12547**	**-0.00273**	**1.88587**	**0.07701**	**-0.00259**
%RSD	117.14999	474.59528	18.70941	0.19651	4.00718	0.26903	0.15683	0.10872	11.09973

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	25.59960	0.00111	0.00722	0.00459	0.00164	0.01548	-0.00185	0.00757	0.00139
#2	25.60885	-0.00090	0.00057	0.00643	-0.00145	0.03107	-0.00437	-0.00645	0.00319
Mean	**25.60423**	**0.00010**	**0.00389**	**0.00551**	**0.00010**	**0.02327**	**-0.00311**	**0.00056**	**0.00229**
%RSD	0.02556	1391.64426	120.81488	23.48988	2276.15840	47.37890	57.23282	1773.09140	55.74370

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.64163	-0.00285	0.01312	0.00761	0.00081	-0.05369	-0.00055	0.02241	-0.00046
#2	0.65149	-0.00241	0.01316	0.00843	0.00094	-0.01222	0.00058	0.02180	0.00027
Mean	**0.64656**	**-0.00263**	**0.01314**	**0.00802**	**0.00088**	**-0.03296**	**0.00001**	**0.02211**	**-0.00009**
%RSD	1.07867	11.75348	0.19389	7.23008	10.91422	88.99078	5862.15544	1.93698	548.79452

	Pb	Seer: MIKE LUNDGREEN
	calc	calc
#1	0.00263	0.00345
#2	0.00117	-0.00002
Mean	**0.00190**	**0.00171**
%RSD	54.11151	142.94746

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:01
SampleId1 : 1201363-11MS SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:35:29
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE26

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.09868	4.76942	1.95978	0.49591	2.20318	0.04822	-0.00537	60.90493	0.05210
#2	0.09828	4.77781	1.97443	0.49917	2.20964	0.04835	-0.00768	60.95441	0.05175
Mean	**0.09848**	**4.77362**	**1.96711**	**0.49754**	**2.20641**	**0.04828**	**-0.00652**	**60.92967**	**0.05192**
%RSD	0.28742	0.12430	0.52660	0.46266	0.20697	0.18472	24.98123	0.05742	0.46766

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.48756	0.19897	0.26304	2.30584	50.50187	0.57743	46.95582	0.88503	0.98883
#2	0.48904	0.20032	0.26774	2.31114	50.61312	0.57875	47.11414	0.88622	0.98476
Mean	**0.48830**	**0.19964**	**0.26539**	**2.30849**	**50.55749**	**0.57809**	**47.03498**	**0.88563**	**0.98680**
%RSD	0.21515	0.47712	1.25429	0.16222	0.15560	0.16151	0.23800	0.09500	0.29198

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	162.25698	0.49889	0.06778	0.50062	0.49157	0.19325	0.47037	1.92163	1.89419
#2	161.78894	0.49641	0.05913	0.49941	0.49198	0.19325	0.47099	1.94762	1.90325
Mean	**162.02296**	**0.49765**	**0.06345**	**0.50002**	**0.49177**	**0.19325**	**0.47068**	**1.93463**	**1.89872**
%RSD	0.20427	0.35301	9.64173	0.17038	0.05981	0.00000	0.09323	0.94997	0.33745

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	6.88931	0.51980	0.60860	0.54716	2.04117	-0.05075	0.50004	0.60391	0.00191
#2	6.88060	0.51233	0.60998	0.55162	2.04409	-0.04638	0.49940	0.60300	0.00206
Mean	**6.88495**	**0.51606**	**0.60929**	**0.54939**	**2.04263**	**-0.04857**	**0.49972**	**0.60346**	**0.00198**
%RSD	0.08942	1.02293	0.15978	0.57306	0.10106	6.35135	0.09147	0.10661	5.28818

	Pb	Se
	calc	calc
#1	0.49458	1.90333
#2	0.49446	1.91803
Mean	**0.49452**	**1.91068**
%RSD	0.01770	0.54398

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:01

SampleId1 : 1201363-11MSD **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 16:38:09
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE27

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.09999	4.84979	1.98808	0.50094	2.22108	0.04894	-0.00394	61.50034	0.05233
#2	0.09980	4.87479	1.99641	0.50568	2.22424	0.04896	-0.00114	61.48047	0.05229
Mean	**0.09990**	**4.86229**	**1.99224**	**0.50331**	**2.22266**	**0.04895**	**-0.00254**	**61.49040**	**0.05231**
%RSD	0.13635	0.36355	0.29543	0.66525	0.10050	0.02867	77.82238	0.02286	0.04970

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.49325	0.20166	0.26870	2.34058	50.93949	0.58265	47.51824	0.89646	0.99199
#2	0.49383	0.20179	0.26968	2.34152	50.84052	0.58250	47.55469	0.89681	0.99729
Mean	**0.49354**	**0.20173**	**0.26919**	**2.34105**	**50.89000**	**0.58258**	**47.53647**	**0.89663**	**0.99464**
%RSD	0.08308	0.04337	0.25636	0.02823	0.13751	0.01849	0.05422	0.02815	0.37659

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	163.24278	0.50122	0.06734	0.50369	0.50026	0.19949	0.47699	1.93784	1.93349
#2	162.87352	0.49854	0.06734	0.49939	0.49948	0.20261	0.47610	1.94547	1.92739
Mean	**163.05815**	**0.49988**	**0.06734**	**0.50154**	**0.49987**	**0.20105**	**0.47655**	**1.94166**	**1.93044**
%RSD	0.16013	0.37932	0.00000	0.60654	0.11010	1.09695	0.13244	0.27776	0.22341

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	7.14969	0.51540	0.61418	0.55822	2.06608	-0.04095	0.50518	0.61241	0.00162
#2	7.19508	0.52066	0.61499	0.55939	2.08144	-0.04968	0.50539	0.61059	0.00172
Mean	**7.17238**	**0.51803**	**0.61459**	**0.55881**	**2.07376**	**-0.04531**	**0.50528**	**0.61150**	**0.00167**
%RSD	0.44752	0.71865	0.09380	0.14684	0.52378	13.62665	0.03023	0.21043	4.29761

	Pb	Se
	calc	calc
#1	0.50140	1.93494
#2	0.49945	1.93341
Mean	**0.50042**	**1.93418**
%RSD	0.27578	0.05587

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:01
SampleId1 : 1201363-13 **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 16:40:44
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE28

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm

#1	0.00024	1.44649	0.00020	0.01425	0.08748	0.00001	0.00043	20.88990	-0.00013
#2	-0.00180	1.44708	-0.00412	0.01151	0.08755	0.00001	-0.00680	20.81261	-0.00063
Mean	**-0.00078**	**1.44678**	**-0.00196**	**0.01288**	**0.08751**	**0.00001**	**-0.00319**	**20.85125**	**-0.00038**
%RSD	184.69365	0.02916	156.19227	15.01938	0.05629	42.85208	160.31593	0.26209	92.55553

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00149	0.00096	-0.00155	0.94033	0.93938	-0.00041	9.23951	0.39055	0.00046
#2	0.00100	-0.00038	-0.00177	0.93754	0.92516	-0.00038	9.24265	0.38984	-0.00086
Mean	**0.00125**	**0.00029**	**-0.00166**	**0.93894**	**0.93227**	**-0.00040**	**9.24108**	**0.39019**	**-0.00020**
%RSD	27.85178	322.04136	9.31984	0.21012	1.07812	6.49684	0.02399	0.12899	463.82363

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	135.53099	0.00261	0.04094	0.00141	0.00409	0.07473	-0.00052	0.00157	0.00368
#2	135.10150	-0.00035	0.03872	-0.00308	0.00540	0.07785	-0.00303	0.00074	0.00394
Mean	**135.31625**	**0.00113**	**0.03983**	**-0.00083**	**0.00474**	**0.07629**	**-0.00177**	**0.00115**	**0.00381**
%RSD	0.22443	185.48616	3.93837	381.84498	19.57297	2.89062	99.92446	50.44182	4.78239

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	2.90188	-0.00728	0.06811	0.04361	-0.00061	-0.03781	0.00088	0.12930	0.00125
#2	2.89702	-0.00201	0.06802	0.04160	0.00140	-0.05964	0.00099	0.12476	0.00050
Mean	**2.89945**	**-0.00464**	**0.06806**	**0.04260**	**0.00040**	**-0.04872**	**0.00094**	**0.12703**	**0.00087**
%RSD	0.11869	80.12440	0.09361	3.32954	358.77061	31.67659	8.12196	2.52878	60.89817

	Pb	**Se**
	calc	calc
#1	0.00320	0.00298
#2	0.00258	0.00288
Mean	**0.00289**	**0.00293**
%RSD	15.19057	2.47175

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:01
SampleId1 : 1201363-15 SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:42:45
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE29

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00010	1.46093	0.00065	0.01395	0.09082	0.00007	0.00206	23.38814	0.00009
#2	-0.00069	1.45549	0.00009	0.01351	0.09103	0.00002	-0.01632	23.41941	-0.00003
Mean	**-0.00029**	**1.45821**	**0.00037**	**0.01373**	**0.09093**	**0.00004**	**-0.00713**	**23.40378**	**0.00003**
%RSD	189.66010	0.26417	105.72478	2.28474	0.16254	90.55535	182.36993	0.09446	280.14124

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00232	0.00029	-0.00046	0.94917	1.10827	-0.00019	9.48770	0.37453	-0.00259

#2	0.00239	0.00033	-0.00095	0.94824	1.11120	-0.00015	9.47987	0.37442	-0.00137
Mean	**0.00235**	**0.00031**	**-0.00071**	**0.94870**	**1.10973**	**-0.00017**	**9.48379**	**0.37447**	**-0.00198**
%RSD	2.27446	9.02764	48.66344	0.06932	0.18646	15.37790	0.05844	0.02240	43.55465

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	129.71648	0.00146	0.05181	0.00582	0.00325	0.13399	0.00145	0.00103	0.00274
#2	129.63076	0.00308	0.05159	0.00105	0.00562	0.13711	0.00000	-0.00178	-0.00199
Mean	**129.67362**	**0.00227**	**0.05170**	**0.00344**	**0.00444**	**0.13555**	**0.00072**	**-0.00037**	**0.00037**
%RSD	0.04674	50.33979	0.30344	98.08474	37.76556	1.62697	141.03539	531.25541	896.59890

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	2.94859	0.00061	0.07932	0.04638	0.00366	-0.03563	0.00153	0.14293	0.00221
#2	2.96677	-0.00071	0.07906	0.04976	0.00422	-0.03454	0.00223	0.14263	0.00116
Mean	**2.95768**	**-0.00005**	**0.07919**	**0.04807**	**0.00394**	**-0.03509**	**0.00188**	**0.14278**	**0.00169**
%RSD	0.43478	1946.48072	0.22531	4.97355	10.03713	2.20084	26.36259	0.15000	43.97863

	Pb	**Se**
	calc	calc
#1	0.00411	0.00217
#2	0.00410	-0.00192
Mean	**0.00410**	**0.00012**
%RSD	0.12215	2328.01080

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:02
SampleId1 : CCV **SampleId2 :** **[CV]**
Analysis commenced : 2/2/2012 16:44:33
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD6

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.21174	51.71560	0.53218	1.00123	1.06338	0.49086	0.52851	50.79601	0.51212
#2	0.21100	51.73992	0.52574	1.00138	1.06163	0.49131	0.53618	51.00946	0.51288
Mean	**0.21137**	**51.72776**	**0.52896**	**1.00130**	**1.06251**	**0.49108**	**0.53234**	**50.90273**	**0.51250**
%RSD	0.24753	0.03324	0.86053	0.01046	0.11632	0.06548	1.01853	0.29652	0.10455

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.49581	1.01414	1.04843	20.31414	51.34962	0.51698	50.17841	1.01216	1.00686
#2	0.49895	1.01708	1.04433	20.36297	51.42118	0.51720	50.28357	1.01478	1.00758
Mean	**0.49738**	**1.01561**	**1.04638**	**20.33855**	**51.38540**	**0.51709**	**50.23099**	**1.01347**	**1.00722**
%RSD	0.44549	0.20434	0.27676	0.16974	0.09846	0.02924	0.14804	0.18278	0.05006

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	47.83492	0.99999	4.97501	1.00972	1.00439	5.17978	0.49455	1.02394	1.00254
#2	47.94731	1.00831	4.96255	1.01998	1.00550	5.14544	0.49254	1.02461	1.00393

Mean	**47.89112**	**1.00415**	**4.96878**	**1.01485**	**1.00494**	**5.16261**	**0.49354**	**1.02428**	**1.00323**
%RSD	0.16595	0.58584	0.17734	0.71504	0.07827	0.47037	0.28871	0.04599	0.09835

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	5.13504	1.04061	0.52760	0.49516	0.52690	5.14425	0.50057	0.98414	1.01031
#2	5.13014	1.04324	0.52820	0.49579	0.53423	5.14968	0.50112	0.98627	1.01289
Mean	**5.13259**	**1.04192**	**0.52790**	**0.49547**	**0.53056**	**5.14696**	**0.50084**	**0.98521**	**1.01160**
%RSD	0.06756	0.17883	0.08001	0.09001	0.97683	0.07455	0.07751	0.15254	0.18050

	Pb	**Se**
	calc	calc
#1	1.00616	1.00967
#2	1.01032	1.01082
Mean	**1.00824**	**1.01024**
%RSD	0.29170	0.08067

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:02
SampleId1 : CCB **SampleId2 :** **[CB]**
Analysis commenced : 2/2/2012 16:46:42
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD2

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00010	0.15457	-0.00168	-0.00239	-0.00001	0.00010	-0.00059	-0.04025	-0.00020
#2	-0.00081	0.15259	-0.00168	-0.00254	-0.00022	0.00011	-0.00967	-0.04251	-0.00046
Mean	**-0.00035**	**0.15358**	**-0.00168**	**-0.00246**	**-0.00012**	**0.00010**	**-0.00513**	**-0.04138**	**-0.00033**
%RSD	182.05018	0.91122	0.00000	4.24636	125.04034	3.97564	125.09750	3.85506	56.26456

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00019	0.00104	-0.00350	0.01636	-0.29424	-0.00304	0.03586	0.00036	-0.00056
#2	-0.00052	-0.00050	-0.00324	0.01512	-0.29592	-0.00309	0.03064	0.00024	-0.00035
Mean	**-0.00035**	**0.00027**	**-0.00337**	**0.01574**	**-0.29508**	**-0.00306**	**0.03325**	**0.00030**	**-0.00046**
%RSD	66.61191	408.11574	5.47579	5.55289	0.40094	0.95773	11.12094	27.79609	31.55404

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.07890	-0.00110	-0.00742	0.00159	-0.00104	0.00300	0.00040	-0.00281	-0.00390
#2	-0.08439	-0.00153	-0.00897	-0.00084	-0.00326	-0.01571	-0.00183	0.01378	-0.00072
Mean	**-0.08165**	**-0.00132**	**-0.00819**	**0.00037**	**-0.00215**	**-0.00636**	**-0.00072**	**0.00548**	**-0.00231**
%RSD	4.75159	23.28193	13.39863	459.60898	72.88939	208.20428	219.59231	213.99621	97.40871

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.01948	0.00417	-0.00179	-0.00194	0.00409	-0.02627	0.00000	-0.00423	0.00023
#2	-0.01903	-0.00109	-0.00187	-0.00190	0.00588	-0.04373	-0.00076	-0.00181	-0.00039
Mean	**-0.01926**	**0.00154**	**-0.00183**	**-0.00192**	**0.00498**	**-0.03500**	**-0.00038**	**-0.00302**	**-0.00008**

%RSD	1.63981	240.83196	2.78468	1.39289	25.37223	35.28138	141.68909	56.64495	546.59103

	Pb	Se
	calc	calc
#1	-0.00017	-0.00354
#2	-0.00245	0.00411
Mean	**-0.00131**	**0.00028**
%RSD	123.56403	1901.38320

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:02
SampleId1 : 1201363-17 **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 16:48:59
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE30

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00024	1.48002	0.00587	0.00796	0.08532	0.00016	-0.00260	19.19576	-0.00047
#2	-0.00061	1.48206	-0.00301	0.00848	0.08532	0.00015	-0.01285	19.09725	-0.00009
Mean	**-0.00019**	**1.48104**	**0.00143**	**0.00822**	**0.08532**	**0.00015**	**-0.00772**	**19.14651**	**-0.00028**
%RSD	320.91015	0.09770	440.42472	4.45140	0.00000	3.64568	93.74782	0.36380	96.75668

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00190	0.00108	-0.00215	0.92204	0.86454	-0.00073	7.66193	0.28180	-0.00218
#2	0.00149	0.00022	-0.00213	0.91770	0.85158	-0.00080	7.65305	0.28121	-0.00239
Mean	**0.00170**	**0.00065**	**-0.00214**	**0.91987**	**0.85806**	**-0.00077**	**7.65749**	**0.28150**	**-0.00228**
%RSD	17.38972	93.79695	0.69548	0.33360	1.06804	6.70309	0.08204	0.14890	6.29044

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	133.94292	0.00123	0.04316	0.00168	0.00423	0.14335	0.00025	0.00344	0.00265
#2	133.19879	0.00182	0.04116	0.00341	0.00805	0.13399	-0.00331	0.00851	0.00093
Mean	**133.57086**	**0.00152**	**0.04216**	**0.00254**	**0.00614**	**0.13867**	**-0.00153**	**0.00598**	**0.00179**
%RSD	0.39394	27.48439	3.34873	48.29627	44.02142	4.77112	164.82299	59.96112	68.10639

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	2.94664	-0.00026	0.06776	0.04218	-0.00423	-0.03780	0.00109	0.12355	0.00177
#2	2.98220	-0.00421	0.06724	0.04426	0.00182	-0.05744	0.00061	0.12203	0.00122
Mean	**2.96442**	**-0.00223**	**0.06750**	**0.04322**	**-0.00121**	**-0.04762**	**0.00085**	**0.12279**	**0.00149**
%RSD	0.84820	124.94734	0.54746	3.40576	355.24993	29.16828	40.45912	0.87202	26.37876

	Pb	Se
	calc	calc
#1	0.00338	0.00291
#2	0.00651	0.00345
Mean	**0.00494**	**0.00318**
%RSD	44.75414	12.01239

ted: 2/2/2012 17:36:05 User: MIKE LUNDGREEN
Method : Paragon File : 120202A Printed : 2/2/2012 17:36:02
SampleId1 : 1201363-19 **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 16:50:52
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE31

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00155	1.90881	0.00076	0.00759	0.10288	0.00022	-0.01491	22.16885	-0.00042
#2	-0.00070	1.90447	0.00120	0.00833	0.10322	0.00020	-0.00606	22.27058	0.00045
Mean	**-0.00112**	**1.90664**	**0.00098**	**0.00796**	**0.10305**	**0.00021**	**-0.01048**	**22.21972**	**0.00002**
%RSD	53.73409	0.16089	31.98098	6.56580	0.23904	6.83572	59.72477	0.32375	3984.51609

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00149	0.00041	-0.00130	1.88668	1.02633	-0.00034	9.93653	0.34832	-0.00035
#2	0.00189	0.00072	-0.00095	1.89415	1.06229	-0.00033	9.94854	0.34927	-0.00188
Mean	**0.00169**	**0.00057**	**-0.00113**	**1.89042**	**1.04431**	**-0.00033**	**9.94253**	**0.34880**	**-0.00112**
%RSD	16.97181	38.82870	21.91262	0.27925	2.43432	1.10163	0.08546	0.19235	96.58271

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	135.52481	0.00304	0.06445	0.00483	0.00476	0.09345	-0.00290	-0.00061	0.00224
#2	135.48142	0.00265	0.06268	0.00431	0.00499	0.08409	-0.00318	-0.00087	0.00353
Mean	**135.50312**	**0.00284**	**0.06356**	**0.00457**	**0.00488**	**0.08877**	**-0.00304**	**-0.00074**	**0.00289**
%RSD	0.02264	9.80848	1.97434	8.07348	3.24887	7.45316	6.47460	24.43543	31.64202

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	3.69161	0.00235	0.07422	0.05644	-0.00097	-0.04391	0.00133	0.15081	0.00193
#2	3.69522	-0.00247	0.07445	0.06013	0.00399	-0.03082	0.00279	0.15111	0.00174
Mean	**3.69342**	**-0.00006**	**0.07433**	**0.05828**	**0.00151**	**-0.03737**	**0.00206**	**0.15096**	**0.00184**
%RSD	0.06908	5707.79755	0.22288	4.48469	231.70838	24.77574	49.97527	0.14187	7.10041

	Pb	Se
	calc	calc
#1	0.00479	0.00129
#2	0.00476	0.00207
Mean	**0.00477**	**0.00168**
%RSD	0.36210	32.70467

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:03
SampleId1 : ZZZ **SampleId2 :** **[FLEXQC]**
Analysis commenced : 2/2/2012 16:52:46
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD3

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.02019	0.56956	0.01297	0.40550	0.41708	0.01179	0.04782	5.09026	0.01158
#2	0.02046	0.56662	0.01186	0.40402	0.41770	0.01175	0.04526	5.07517	0.01187
Mean	**0.02033**	**0.56809**	**0.01241**	**0.40476**	**0.41739**	**0.01177**	**0.04654**	**5.08272**	**0.01172**
%RSD	0.92967	0.36535	6.32225	0.25847	0.10635	0.25275	3.89129	0.20988	1.75462

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.10048	0.02191	0.04829	0.20056	3.41802	0.01239	4.96349	0.03161	0.01977
#2	0.10089	0.02132	0.04830	0.19995	3.41676	0.01238	4.96193	0.03149	0.02028
Mean	**0.10069**	**0.02161**	**0.04829**	**0.20025**	**3.41739**	**0.01239**	**4.96271**	**0.03155**	**0.02002**
%RSD	0.29027	1.93797	0.00858	0.21834	0.02592	0.08882	0.02234	0.26531	1.79457

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	3.72213	0.08251	0.20204	0.00537	0.00554	0.19637	0.12144	0.00594	0.01067
#2	3.72752	0.08358	0.19916	0.00692	0.00420	0.21197	0.12290	0.00446	0.01024
Mean	**3.72482**	**0.08304**	**0.20060**	**0.00614**	**0.00487**	**0.20417**	**0.12217**	**0.00520**	**0.01045**
%RSD	0.10230	0.90671	1.01724	17.80819	19.48900	5.40098	0.84780	20.10763	2.90946

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.10077	0.10192	0.02020	0.01914	0.02874	0.19736	0.10266	0.04754	0.05288
#2	0.09938	0.09929	0.02031	0.01928	0.01918	0.19190	0.10293	0.04875	0.05321
Mean	**0.10007**	**0.10061**	**0.02025**	**0.01921**	**0.02396**	**0.19463**	**0.10280**	**0.04814**	**0.05304**
%RSD	0.98075	1.84921	0.37735	0.51081	28.20828	1.98256	0.18558	1.77886	0.44096

	Pb	Se
	calc	calc
#1	0.00549	0.00909
#2	0.00511	0.00831
Mean	**0.00530**	**0.00870**
%RSD	5.07956	6.32957

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:03
SampleId1 : 1201354-1A SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:58:45
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE32

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00181	60.71775	2.04091	0.99338	5.04354	0.05284	0.00020	121.98443	0.05359
#2	-0.00177	60.51100	2.03336	0.98657	5.01568	0.05273	-0.00096	121.67875	0.05352
Mean	**-0.00179**	**60.61438**	**2.03714**	**0.98998**	**5.02961**	**0.05279**	**-0.00038**	**121.83159**	**0.05355**
%RSD	1.75904	0.24118	0.26195	0.48645	0.39170	0.14440	218.39178	0.17742	0.09220

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo

	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.52149	0.24119	0.33655	111.46442	54.93582	0.60946	59.13733	2.05151	1.02357
#2	0.52162	0.24101	0.33591	111.18333	54.61698	0.60583	59.02184	2.04684	1.02459
Mean	**0.52156**	**0.24110**	**0.33623**	**111.32388**	**54.77640**	**0.60764**	**59.07959**	**2.04918**	**1.02408**
%RSD	0.01798	0.05120	0.13370	0.17854	0.41159	0.42326	0.13822	0.16125	0.07034

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	46.85944	0.54061	2.22860	0.63121	0.62882	5.55131	0.47986	2.01666	1.99498
#2	46.56271	0.53876	2.22322	0.63467	0.62076	5.57941	0.47668	2.02169	2.01514
Mean	**46.71107**	**0.53969**	**2.22591**	**0.63294**	**0.62479**	**5.56536**	**0.47827**	**2.01917**	**2.00506**
%RSD	0.44919	0.24284	0.17074	0.38664	0.91278	0.35703	0.46928	0.17629	0.71116

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	3.47278	0.52145	0.91236	0.63062	2.07545	0.34208	1.26230	1.54692	0.05185
#2	3.45623	0.52014	0.90749	0.62755	2.05661	0.37174	1.25982	1.54084	0.05209
Mean	**3.46451**	**0.52080**	**0.90993**	**0.62908**	**2.06603**	**0.35691**	**1.26106**	**1.54388**	**0.05197**
%RSD	0.33772	0.17827	0.37836	0.34592	0.64503	5.87657	0.13906	0.27858	0.32908

	Pb	**Se**
	calc	calc
#1	0.62962	2.00220
#2	0.62539	2.01732
Mean	**0.62750**	**2.00976**
%RSD	0.47632	0.53221

Method : Paragon   File : 120202A   Printed : 2/2/2012 17:36:03
SampleId1 : 1201354-13 5X   **SampleId2 :**   **[SAMPLE]**
Analysis commenced : 2/2/2012 17:00:39
Dilution ratio : 1.00000 to 1.00000   Tray :   Position : TUBE33

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00067	11.26495	0.01752	-0.00113	0.19458	0.00122	-0.00067	8.70587	-0.00043
#2	-0.00083	11.26049	0.01352	0.00123	0.19444	0.00118	-0.00369	8.71079	-0.00016
Mean	**-0.00075**	**11.26272**	**0.01552**	**0.00005**	**0.19451**	**0.00120**	**-0.00218**	**8.70833**	**-0.00030**
%RSD	14.30175	0.02799	18.20301	3251.43292	0.05067	1.93795	97.91234	0.03990	64.39492

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.01293	0.01428	0.01463	51.31836	3.16159	0.00701	5.21805	0.52074	-0.00025
#2	0.01211	0.01387	0.01496	51.23023	3.17412	0.00702	5.19714	0.52026	-0.00279
Mean	**0.01252**	**0.01407**	**0.01479**	**51.27429**	**3.16785**	**0.00701**	**5.20760**	**0.52050**	**-0.00152**
%RSD	4.65531	2.07048	1.58929	0.12154	0.27968	0.05230	0.28390	0.06452	117.99363

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm

#1	0.08531	0.01326	0.82913	0.01901	0.02240	3.78131	0.00105	-0.01195	0.00279
#2	0.08574	0.01464	0.82935	0.02241	0.02020	3.75946	-0.00121	-0.00321	0.00440
Mean	**0.08553**	**0.01395**	**0.82924**	**0.02071**	**0.02130**	**3.77039**	**-0.00008**	**-0.00758**	**0.00360**
%RSD	0.35459	6.99923	0.01898	11.63000	7.30777	0.40974	2123.15072	81.60344	31.76988

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.84764	-0.00246	0.07549	0.05116	0.00716	-0.00117	0.03661	0.07328	0.00811
#2	0.87919	0.00192	0.07531	0.05058	0.01197	0.02727	0.03611	0.07509	0.00800
Mean	**0.86341**	**-0.00027**	**0.07540**	**0.05087**	**0.00957**	**0.01305**	**0.03636**	**0.07419**	**0.00806**
%RSD	2.58389	1146.71854	0.16901	0.80667	35.53964	154.08086	0.97808	1.73178	1.01855

	Pb	**Se**
	calc	calc
#1	0.02127	-0.00212
#2	0.02094	0.00187
Mean	**0.02110**	**-0.00012**
%RSD	1.11990	2258.54964

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:03
SampleId1 : CRI **SampleId2 :** **[FLEXQC]**
Analysis commenced : 2/2/2012 17:02:40
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD3

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.02008	0.54549	0.01053	0.40484	0.41129	0.01177	0.05200	5.14080	0.01119
#2	0.02000	0.54948	0.01497	0.40099	0.41205	0.01174	0.04898	5.15212	0.01126
Mean	**0.02004**	**0.54748**	**0.01275**	**0.40292**	**0.41167**	**0.01176**	**0.05049**	**5.14646**	**0.01123**
%RSD	0.28167	0.51544	24.62840	0.67511	0.13179	0.17776	4.23129	0.15547	0.44577

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.10154	0.02133	0.04795	0.20520	3.49486	0.01235	4.95827	0.03184	0.02028
#2	0.10105	0.02211	0.04781	0.20582	3.49068	0.01242	4.96977	0.03208	0.01946
Mean	**0.10130**	**0.02172**	**0.04788**	**0.20551**	**3.49277**	**0.01239**	**4.96402**	**0.03196**	**0.01987**
%RSD	0.34502	2.55560	0.20461	0.21276	0.08454	0.44410	0.16381	0.52375	2.89333

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	3.68058	0.08172	0.19894	0.00885	0.00653	0.21509	0.11999	0.01368	0.01110
#2	3.68953	0.08322	0.19738	0.00987	0.00838	0.20261	0.11998	0.01343	0.01144
Mean	**3.68506**	**0.08247**	**0.19816**	**0.00936**	**0.00746**	**0.20885**	**0.11999**	**0.01355**	**0.01127**
%RSD	0.17176	1.28496	0.55449	7.72731	17.51030	4.22400	0.00815	1.31674	2.15760

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.09493	0.10148	0.01998	0.01939	0.02705	0.17443	0.10212	0.04845	0.05194

#2	0.09672	0.10894	0.01995	0.01942	0.02750	0.19081	0.10320	0.04814	0.05251
Mean	**0.09583**	**0.10521**	**0.01996**	**0.01941**	**0.02728**	**0.18262**	**0.10266**	**0.04830**	**0.05223**
%RSD	1.32056	5.00988	0.12760	0.09194	1.18954	6.33914	0.74369	0.44332	0.77027

	Pb calc	**Se** calc
#1	0.00730	0.01196
#2	0.00888	0.01210
Mean	**0.00809**	**0.01203**
%RSD	13.74069	0.85427

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:03
SampleId1 : ICSA **SampleId2 :** **[FLEXQC]**
Analysis commenced : 2/2/2012 17:04:39
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD4

Final concentrations

	Ag ppm	**Al** ppm	**As** ppm	**B** ppm	**Ba** ppm	**Be** ppm	**Bi** ppm	**Ca** ppm	**Cd** ppm
#1	-0.00192	260.36265	-0.00301	-0.00505	-0.00099	0.00050	0.00081	259.41016	-0.00084
#2	-0.00219	259.35871	-0.00079	-0.00527	-0.00071	0.00047	0.00732	258.53680	-0.00053
Mean	**-0.00205**	**259.86068**	**-0.00190**	**-0.00516**	**-0.00085**	**0.00048**	**0.00406**	**258.97348**	**-0.00068**
%RSD	9.15084	0.27318	82.43304	3.03895	23.19043	5.23202	113.35159	0.23846	31.93536

	Co ppm	**Cr** ppm	**Cu** ppm	**Fe** ppm	**K** ppm	**Li** ppm	**Mg** ppm	**Mn** ppm	**Mo** ppm
#1	-0.00085	-0.00248	-0.00766	104.60093	-0.41053	-0.00304	262.26165	0.00107	-0.00472
#2	-0.00135	-0.00312	-0.00827	104.18100	-0.41304	-0.00303	261.22845	0.00083	-0.00533
Mean	**-0.00110**	**-0.00280**	**-0.00796**	**104.39097**	**-0.41178**	**-0.00304**	**261.74505**	**0.00095**	**-0.00503**
%RSD	31.86698	16.08432	5.39757	0.28444	0.43099	0.12084	0.27912	17.58122	8.57408

	Na ppm	**Ni** ppm	**P** ppm	**Pb I** ppm	**Pb II** ppm	**S** ppm	**Sb** ppm	**Se I** ppm	**Se II** ppm
#1	-0.12211	-0.00106	-0.00342	-0.00384	0.00170	0.04666	-0.00396	-0.01288	0.00730
#2	-0.11979	-0.00236	-0.00342	-0.01375	0.00502	0.03107	-0.00647	-0.03356	0.00601
Mean	**-0.12095**	**-0.00171**	**-0.00342**	**-0.00879**	**0.00336**	**0.03887**	**-0.00521**	**-0.02322**	**0.00666**
%RSD	1.35299	53.75549	0.00000	79.72955	69.78967	28.37001	34.03731	62.98164	13.69711

	Si ppm	**Sn** ppm	**Sr** ppm	**Ti** ppm	**Tl** ppm	**U** ppm	**V** ppm	**Zn** ppm	**Zr** ppm
#1	-0.03746	-0.00547	-0.00055	-0.00043	0.01752	0.01603	-0.01142	-0.00363	0.00198
#2	-0.03635	-0.00503	-0.00059	-0.00046	0.00979	0.01850	-0.01075	-0.00454	0.00178
Mean	**-0.03690**	**-0.00525**	**-0.00057**	**-0.00045**	**0.01365**	**0.01727**	**-0.01109**	**-0.00408**	**0.00188**
%RSD	2.13140	5.90267	4.47957	6.00993	40.03972	10.10989	4.30244	15.72915	7.61271

	Pb calc	**Se** calc
#1	-0.00014	0.00058
#2	-0.00123	-0.00717

Mean	-0.00069	-0.00329er: MIKE LUNDGREEN
%RSD	112.14307	166.36241

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:03
SampleId1 : ICSAB **SampleId2 :** **[FLEXQC]**
Analysis commenced : 2/2/2012 17:06:58
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD5

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.20352	209.54168	0.10376	1.00678	0.53889	0.47958	0.54017	261.87315	1.00863
#2	0.20163	209.12352	0.10287	1.00826	0.53729	0.47883	0.54085	261.20539	1.00274
Mean	**0.20257**	**209.33260**	**0.10331**	**1.00752**	**0.53809**	**0.47920**	**0.54051**	**261.53927**	**1.00569**
%RSD	0.65986	0.14125	0.60771	0.10391	0.21092	0.11020	0.08969	0.18054	0.41404

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.48152	0.48921	0.54418	105.37331	-0.36242	1.05187	262.76008	0.50637	0.98303
#2	0.48169	0.48823	0.54312	105.19231	-0.35950	1.04809	262.35255	0.50542	0.98191
Mean	**0.48161**	**0.48872**	**0.54365**	**105.28281**	**-0.36096**	**1.04998**	**262.55631**	**0.50590**	**0.98247**
%RSD	0.02424	0.14139	0.13726	0.12157	0.57360	0.25425	0.10975	0.13274	0.08065

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.11902	0.98087	0.99034	0.04575	0.05354	1.05728	0.58567	0.04063	0.05074
#2	-0.10676	0.98260	0.97698	0.05026	0.05339	1.07911	0.57983	0.03340	0.05216
Mean	**-0.11289**	**0.98173**	**0.98366**	**0.04801**	**0.05347**	**1.06819**	**0.58275**	**0.03701**	**0.05145**
%RSD	7.67751	0.12496	0.96073	6.64925	0.19961	1.44549	0.70837	13.80490	1.96028

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.99667	1.03258	1.05797	0.97218	0.11380	10.55126	0.48808	0.92798	0.49299
#2	0.99349	1.02028	1.05449	0.97113	0.11067	10.52299	0.48729	0.92676	0.49189
Mean	**0.99508**	**1.02643**	**1.05623**	**0.97166**	**0.11223**	**10.53712**	**0.48768**	**0.92737**	**0.49244**
%RSD	0.22578	0.84728	0.23263	0.07617	1.97627	0.18976	0.11461	0.09259	0.15790

	Pb	**Se**
	calc	calc
#1	0.05095	0.04737
#2	0.05235	0.04591
Mean	**0.05165**	**0.04664**
%RSD	1.92012	2.20575

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:04
SampleId1 : CCV **SampleId2 :** **[CV]**
Analysis commenced : 2/2/2012 17:09:05
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD6

Final concentrations:06 **User: MIKE LUNDGREEN**

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.21185	51.65307	0.52618	1.00316	1.05877	0.48782	0.52685	50.86109	0.51229
#2	0.21325	51.43325	0.52308	1.00005	1.05297	0.48762	0.53987	50.72550	0.50882
Mean	**0.21255**	**51.54316**	**0.52463**	**1.00160**	**1.05587**	**0.48772**	**0.53336**	**50.79329**	**0.51055**
%RSD	0.46506	0.30156	0.41886	0.21950	0.38860	0.02857	1.72562	0.18875	0.47997

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.49523	1.01076	1.04548	20.29528	51.15704	0.51371	50.21746	1.00716	1.00534
#2	0.49473	1.01028	1.04223	20.23820	50.88632	0.51072	50.05606	1.00716	1.00116
Mean	**0.49498**	**1.01052**	**1.04386**	**20.26674**	**51.02168**	**0.51222**	**50.13676**	**1.00716**	**1.00325**
%RSD	0.07152	0.03346	0.22024	0.19916	0.37518	0.41327	0.22762	0.00000	0.29438

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	47.84778	1.00153	4.93151	1.01242	1.00284	5.14544	0.49497	1.01305	0.98773
#2	47.66714	1.00456	4.91860	1.00810	0.99687	5.08924	0.49813	1.01360	0.98953
Mean	**47.75746**	**1.00304**	**4.92505**	**1.01026**	**0.99985**	**5.11734**	**0.49655**	**1.01332**	**0.98863**
%RSD	0.26746	0.21403	0.18539	0.30259	0.42191	0.77650	0.44990	0.03830	0.12922

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	5.09915	1.03622	0.52681	0.49242	0.52360	5.09076	0.49776	0.97564	1.00909
#2	5.09060	1.03007	0.52413	0.49107	0.54628	5.09408	0.49823	0.97868	1.00546
Mean	**5.09488**	**1.03314**	**0.52547**	**0.49175**	**0.53494**	**5.09242**	**0.49799**	**0.97716**	**1.00727**
%RSD	0.11877	0.42083	0.36050	0.19407	2.99688	0.04602	0.06738	0.21971	0.25436

	Pb	Se
	calc	calc
#1	1.00603	0.99616
#2	1.00061	0.99755
Mean	**1.00332**	**0.99685**
%RSD	0.38190	0.09845

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:04
SampleId1 : CCB **SampleId2 :** **[CB]**
Analysis commenced : 2/2/2012 17:10:58
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD2

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00056	0.26650	0.00265	0.00020	0.00117	0.00103	-0.00222	0.07782	0.00040
#2	-0.00070	0.22775	-0.00324	-0.00039	0.00075	0.00076	0.00081	0.03570	0.00068
Mean	**-0.00063**	**0.24713**	**-0.00029**	**-0.00010**	**0.00096**	**0.00090**	**-0.00070**	**0.05676**	**0.00054**
%RSD	15.19194	11.08673	1411.06685	433.77828	30.73605	21.59662	303.50254	52.46665	37.06518

ted: 2/2/2012 17:36:06 User: MIKE LUNDGREEN

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00060	0.00187	-0.00204	0.06425	-0.26538	-0.00270	0.15196	0.00166	0.00198
#2	-0.00085	0.00080	-0.00253	0.04911	-0.29131	-0.00289	0.11483	0.00131	-0.00056
Mean	**-0.00072**	**0.00134**	**-0.00228**	**0.05668**	**-0.27835**	**-0.00279**	**0.13339**	**0.00148**	**0.00071**
%RSD	24.21491	56.93275	15.20288	18.89021	6.58811	4.86155	19.68153	16.91123	251.88550

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.05996	0.00166	0.00500	0.00425	-0.00029	-0.00324	-0.00052	0.00534	0.00015
#2	-0.08319	-0.00090	0.00012	0.00000	-0.00015	-0.00636	0.00331	-0.00202	0.00152
Mean	**-0.07157**	**0.00038**	**0.00256**	**0.00213**	**-0.00022**	**-0.00480**	**0.00139**	**0.00166**	**0.00084**
%RSD	22.95256	479.20183	134.58831	141.21894	42.03095	45.98375	194.09834	312.81483	115.93188

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.01289	0.00505	-0.00096	-0.00091	0.00096	-0.03285	0.00141	0.00091	0.00209
#2	-0.01347	-0.00416	-0.00129	-0.00127	0.01242	-0.02629	0.00109	-0.00121	0.00170
Mean	**-0.01318**	**0.00045**	**-0.00113**	**-0.00109**	**0.00669**	**-0.02957**	**0.00125**	**-0.00015**	**0.00189**
%RSD	3.10722	1454.06129	20.34173	23.76226	121.13656	15.68532	18.48638	1017.48426	14.40696

	Pb	Se
	calc	calc
#1	0.00123	0.00188
#2	-0.00010	0.00035
Mean	**0.00056**	**0.00111**
%RSD	167.07808	97.50239

Header Information for Analytical Sequence 12B03m00

Instrument: Agilent ICPMS Model 7700X; Serial No. JP09400112
Software Revision: B.01.01
Date of Analysis: 02/03/2012
Analyst: Ross Miller

Calibration Standards

High Calibration Standard: ST100324-6 (expires 2/28/2015)
This standard contains the following elements at the listed concentrations (ng/ml).

100000	50000	10000	5000	2000	1000	500	200	100	50	30	10	2
Na	Ca	Mg	Fe	Zn	B	Cr	Mn	V	Pb	Sb	Th	Tl
	K		Al	Ti	Cu	Ni		Co	Be	Cd	U	
					Li	Sn		As		Y	Ag	
								Se		La		
								Mo		Ce		
								Ba		Pr		
								Sr		Nd		

1/10,1/100, and 1/1000 dilutions of the High Calibration Standard are prepared daily to provide additional calibration standards.

ICV

The ICV is prepared by diluting 1ml of the 2nd Source intermediate (ST110707-8, expires 06/20/2012) to 5ml giving the following concentrations (ng/ml).

20000	10000	2000	1000	400	200	100	40	20	10	6	2	0.4
Na	Ca	Mg	Fe	Zn	B	Cr	Mn	V	Pb	Sb	Th	Tl
	K		Al	Ti	Cu	Ni		Co	Be	Cd	U	
					Li	Sn		As		Y	Ag	
								Se		La		
								Mo		Ce		
								Ba		Pr		
								Sr		Nd		

CRI1

The RL1 is prepared by diluting 0.05ml of the Reporting Limit Verification Spike Solution (ST100324-9 expires 2/28/2015) to 50ml giving the following concentrations (ng/ml).

100	50	10	5	2	1	0.5	0.2	0.1	0.05	0.03	0.02	0.01
Na	Ca	Mg	Al	Zn	B	Cr	Mn	V	Pb	Sb	Th	U
	K		Fe	Ti	Cu	Ni		Co	Be	Cd	Tl	Ag
					Li	Sn		As		Y		
								Se		La		
								Mo		Ce		
								Ba		Pr		
								Sr		Nd		

CRI2

The RL2 is prepared by diluting 0.1ml of the Reporting Limit Verification Spike Solution (ST100324-9 expires 2/28/2015) to 50ml giving the following concentrations (ng/ml).

200	100	20	10	4	2	1	0.4	0.2	0.1	0.06	0.04	0.02
Na	Ca	Mg	Al	Zn	B	Cr	Mn	V	Pb	Sb	Th	U
	K		Fe	Ti	Cu	Ni		Co	Be	Cd	Tl	Ag
					Li	Sn		As		Y		
								Se		La		
								Mo		Ce		
								Ba		Pr		
								Sr		Nd		

ICSA

The ICSA is prepared by diluting 0.5ml of ICSA intermediate (ST111103-1, expires 12/01/12) to a final volume of 50ml giving the following concentrations (ng/ml).

42.5×10^6	30000	25000	20000	10000	200
Cl	Ca	Fe	C	Al	Mo
		Na		K	Ti
				Mg	
				P	
				S	

ICSAB

The ICSAB is prepared by diluting 0.5ml of ICSA intermediate (ST111103-1, expires 12/01/12) and 5ml of High Calibration Standard: ST100324-6 (expires 2/28/2015) to a final volume of 50ml. The ICSAB contains the following elements at the listed concentrations (ng/ml).

$42.5X10^6$	35000	25500	20000	15000	11000	10500	10000	400	210
Cl	Ca	Fe	C	K	Mg	Al	P	Ti	Mo
	Na						S		

200	100	50	20	10	5	3	1	0.2
Zn	B	Cr	Mn	V	Pb	Sb	Th	Tl
	Cu	Ni		Co	Be	Cd	U	
	Li	Sn		As		Y	Ag	
				Se		La		
				Ba		Ce		
				Sr		Pr		
						Nd		

CCV

The CCV is prepared by diluting 5ml of the High Calibration Standard: ST100324-6 (expires 2/28/2015) to a final volume of 50ml. The CCV contains the following elements at the listed concentrations (ng/ml).

10000	5000	1000	500	200	100	50	20	10	5	3	1	0.2
Na	Ca	Mg	Fe	Zn	B	Cr	Mn	V	Pb	Sb	Th	Tl
	K		Al	Ti	Cu	Ni		Co	Be	Cd	U	
					Li	Sn		As		Y	Ag	
								Se		La		
								Mo		Ce		
								Ba		Pr		
								Sr		Nd		

Linear Dynamic Range Standards

LDR-Ca,Na,K

The LDR-Ca,Na,K standard is prepared by diluting 1ml of the High Calibration Standard Intermediate Mix (ST100324-5, expires 2/28/2015) to a final volume of 10ml. The LDR-Ca,Na,K standard contains the following elements at the listed concentrations (ng/ml).

100000	50000	20000	10000	5000	2000	1000	500	300	100	20
Mg	Fe	Zn	B	Cr	Mn	V	Pb	Sb	Th	Tl
	Al	Ti	Cu	Ni		Co	Be	Cd	U	
			Li	Sn		As		Y	Ag	
						Se		La		
						Mo		Ce		
						Ba		Pr		
						Sr		Nd		

1000 Na

The 1000 Na standard is prepared by diluting 1ml of the 10000mg/L Na stock solution (ST100301-26, expires 2/28/2015) to a final volume of 10ml. The 1000 Na standard contains Na at 1000000 ng/ml.

500 Ca

The 500 Ca standard is prepared by diluting 0.5ml of the 10000mg/L Ca stock solution (ST100301-9, expires 2/28/2015) to a final volume of 10ml. The 500 Ca standard contains Ca at 500000 ng/ml.

500 K

The 500 K standard is prepared by diluting 0.5ml of the 10000mg/L K stock solution (ST100301-22, expires 2/28/2015) to a final volume of 10ml. The 500 K standard contains K at 500000 ng/ml.

Linear Dynamic Range

The instrument Linear Dynamic Range (LDR) is determined at least every 6 months. The current LDR was determined on 9/22/2011 The instrument LDR is given below (ng/ml).

1000000	500000	100000	50000	20000	10000	5000	2000	1000	500	300	100	20
Na	Ca	Mg	Fe	Zn	B	Cr	Mn	V	Pb	Sb	Th	Tl
	K		Al	Ti	Cu	Ni		Co	Be	Cd	U	
					Li	Sn		As		Y	Ag	
								Se		La		
								Mo		Ce		
								Ba		Pr		
								Sr		Nd		

ICB/CCB and all diluent

1% HNO_3, 1%HCl in double deionized water

HNO_3 Lot No. K23022
HCl Lot No. K33031

Internal Standards

The internal standard intermediate contains 2 PPM each of Ga, Ge and Pt; 1 PPM each of In and Rh and 0.5 PPM of Bi. This intermediate is added to all standards and samples in the same proportion of 1 on top of 100. Most often this is done by adding 0.05ml of internal standard intermediate on top of 5ml of sample or standard. The final concentration of internal standard added to the standards or samples is about 20ppb each of Ga, Ge and Pt; 10ppb each of In and Rh; and 5ppb of Bi.

Pipet ID Numbers

1.0 to 5.0 ml -- M-66
0.1 to 1.0ml -- M-60
0.01 to 0.1ml -- M-56
0.5ml -- M-14

Dilutions

2X dilutions made by diluting 5ml of sample to 10ml final volume
5X dilutions made by diluting 1ml of sample to 5ml final volume
10X dilutions made by diluting 1ml of sample to 10ml final volume
50X dilutions made by diluting 0.1ml of sample to 5ml final volume
100X dilutions made by diluting 0.1ml of sample to 10ml final volume
200X dilutions made by diluting 0.05ml of sample to 10ml final volume
500X dilutions made by diluting 0.02ml of sample to 10ml final volume

Analytical Spikes

None in this sequence.

Daily Maintenance Items

1. Check / change pump tubing
2. Check / clean drain containers
3. Tune instrument per manufacturer's procedures
4. Perform resolution / mass calibration / stability test and print QC tune report

Monthly Maintenance Items

1. Check / clean torch and cones
2. Check / clean nebulizer and spray chamber
3. Check / fill water recirculating reservoir
4. Check / fill vacuum pump oil

Additional Comments

No additional comments.

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 3 Feb 2012 08:38:47 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\2008TUNE.m

Minimum Response(CPS)

Element	Actual	Required	Flag

RSD (%)

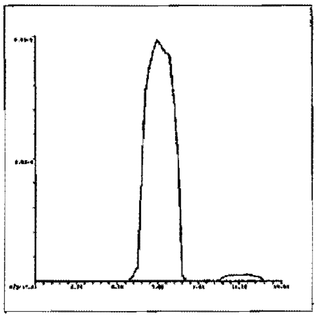
Element	Actual	Required	Flag
9 Be	0.92	5.00	
24 Mg	0.46	5.00	
25 Mg	0.61	5.00	
26 Mg	1.35	5.00	
59 Co	0.60	5.00	
115 In	0.63	5.00	
206 Pb	0.91	5.00	
207 Pb	0.62	5.00	
208 Pb	1.32	5.00	

Ion Ratio

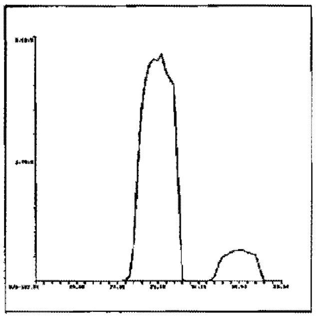
Element	Actual	Required	Flag

Maximum Bkg. Count(CPS)

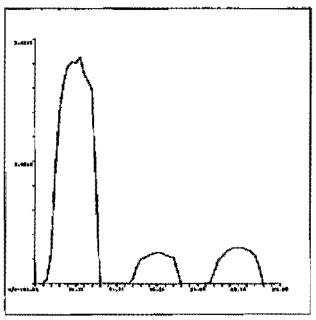
Element	Actual	Required	Flag



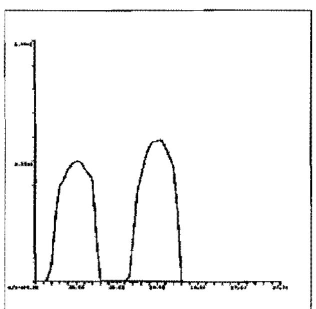
9 Be
Mass Calib.
Actual: 9.05
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.50
Required: 0.80
Flag:



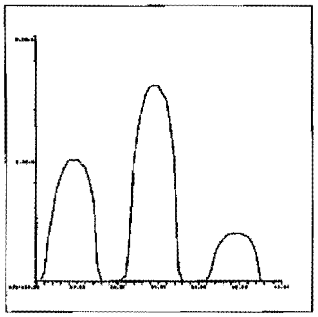
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.55
Required: 0.80
Flag:



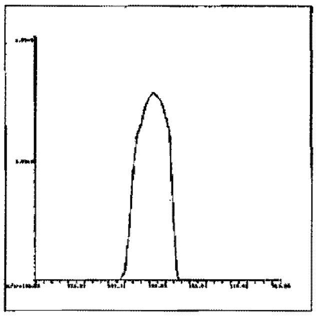
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.55
Required: 0.80
Flag:



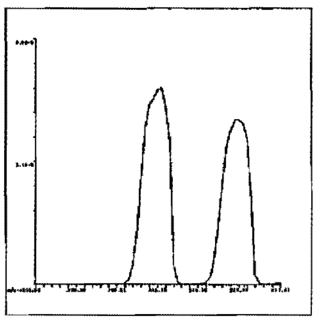
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.55
Required: 0.80
Flag:



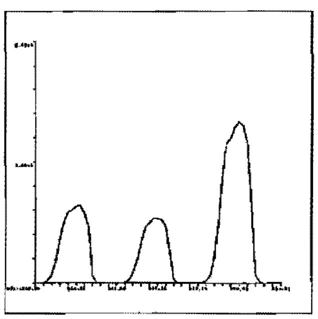
59 Co
Mass Calib.
Actual: 58.95
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.80
Flag:



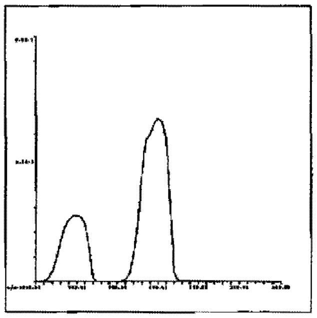
115 In
Mass Calib.
Actual: 114.95
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.55
Required: 0.80
Flag:



206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.50
Required: 0.80
Flag:



207 Pb
Mass Calib.
Actual: 207.00
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.50
Required: 0.80
Flag:



208 Pb
Mass Calib.
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.45
Required: 0.80
Flag:

QC Tune Result:Pass

Batch Summary Report

Batch Folder: C:¥ICPMH¥1¥DATA¥12B03m00.B¥
Analysis File: 12B03m00.batch.xml
Tune Step: #1 hehe.u

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
1		2/3/2012 9:56:16 AM	001SMPL_12B03j00.D	blank	Sample		1.0000
2		2/3/2012 9:58:36 AM	002CALB_12B03j00.D	blank	CalBlk	1	1.0000
3		2/3/2012 10:00:57 AM	003CALB_12B03j00.D	blank	CalBlk	1	1.0000
4		2/3/2012 10:03:18 AM	004CALS_12B03j00.D	H/1000	CalStd	2	1.0000
5		2/3/2012 10:05:37 AM	005CALS_12B03j00.D	H/100	CalStd	3	1.0000
6		2/3/2012 10:07:55 AM	006CALS_12B03j00.D	H/10	CalStd	4	1.0000
7		2/3/2012 10:10:11 AM	007CALS_12B03j00.D	HIGH	CalStd	5	1.0000
8		2/3/2012 10:12:27 AM	008SMPL_12B03j00.D	ICV	6-ICV		1.0000
9		2/3/2012 10:14:46 AM	009SMPL_12B03j00.D	ICB	6-CCB		1.0000
10		2/3/2012 10:17:06 AM	010SMPL_12B03j00.D	CRI1	Sample		1.0000
11		2/3/2012 10:19:25 AM	011SMPL_12B03j00.D	CRI2	Sample		1.0000
12		2/3/2012 10:21:44 AM	012SMPL_12B03j00.D	ICSA	Sample		1.0000
13		2/3/2012 10:24:01 AM	013SMPL_12B03j00.D	ICSAB	Sample		1.0000
14		2/3/2012 10:26:20 AM	014SMPL_12B03j00.D	CCV	6-CCV		1.0000
15		2/3/2012 10:28:38 AM	015SMPL_12B03j00.D	CCB	6-CCB		1.0000
16		2/3/2012 10:30:55 AM	016SMPL_12B03j00.D	EX120201-2MB 10X	6-CCB		1.0000
17		2/3/2012 10:33:12 AM	017SMPL_12B03j00.D	EXM120201-2RVS 10X	Sample		1.0000
18		2/3/2012 10:35:28 AM	018SMPL_12B03j00.D	EXM120201-2LCS 10X	6-LCS		1.0000
19		2/3/2012 10:37:44 AM	019SMPL_12B03j00.D	1201363-11 10X	Sample		1.0000
20		2/3/2012 10:40:01 AM	020SMPL_12B03j00.D	1201363-11D 10X	Sample		1.0000
21		2/3/2012 10:42:18 AM	021SMPL_12B03j00.D	1201363-11L 50X	Sample		1.0000
22		2/3/2012 10:44:36 AM	022SMPL_12B03j00.D	1201363-11MS 10X	Sample		1.0000
23		2/3/2012 10:47:06 AM	023SMPL_12B03j00.D	1201363-11MSD 10X	Sample		1.0000
24		2/3/2012 10:49:27 AM	024SMPL_12B03j00.D	1201358-2 50X	Sample		1.0000
25		2/3/2012 10:51:48 AM	025SMPL_12B03j00.D	CCV	6-CCV		1.0000
26		2/3/2012 10:54:08 AM	026SMPL_12B03j00.D	CCB	6-CCB		1.0000
27		2/3/2012 10:56:27 AM	027SMPL_12B03j00.D	IP120202-2MB 10X	6-CCB		1.0000
28		2/3/2012 10:58:45 AM	028SMPL_12B03j00.D	IM120202-2LCS 10X	6-LCS		1.0000

Batch Summary Report

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
29		2/3/2012 11:01:05 AM	029SMPL_12B03j00.D	1201354-1 10X	Sample		1.0000
30		2/3/2012 11:03:24 AM	030SMPL_12B03j00.D	1201354-1D 10X	Sample		1.0000
31		2/3/2012 11:05:44 AM	031SMPL_12B03j00.D	1201354-1L 50X	Sample		1.0000
32		2/3/2012 11:08:02 AM	032SMPL_12B03j00.D	1201354-1MS 10X	Sample		1.0000
33		2/3/2012 11:10:18 AM	033SMPL_12B03j00.D	1201354-1MSD 10X	Sample		1.0000
34		2/3/2012 11:12:36 AM	034SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
35		2/3/2012 11:14:55 AM	035SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
36		2/3/2012 11:17:13 AM	036SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
37		2/3/2012 11:19:30 AM	037SMPL_12B03j00.D	CCV	6-CCV		1.0000
38		2/3/2012 11:21:48 AM	038SMPL_12B03j00.D	CCB	6-CCB		1.0000
39		2/3/2012 11:24:07 AM	039SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
40		2/3/2012 11:26:27 AM	040SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
41		2/3/2012 11:28:48 AM	041SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
42		2/3/2012 11:31:09 AM	042SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
43		2/3/2012 11:33:29 AM	043SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
44		2/3/2012 11:35:49 AM	044SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
45		2/3/2012 11:38:07 AM	045SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
46		2/3/2012 11:40:24 AM	046SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
47		2/3/2012 11:42:42 AM	047SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
48		2/3/2012 11:45:03 AM	048SMPL_12B03j00.D No As,Se	1201358-1 50X	Sample		1.0000
49		2/3/2012 11:47:22 AM	049SMPL_12B03j00.D	CCV	6-CCV		1.0000
50		2/3/2012 11:49:42 AM	050SMPL_12B03j00.D	CCB	6-CCB		1.0000
51		2/3/2012 12:16:05 PM	001SMPL.D	1201354-12 10X	Sample		1.0000
52		2/3/2012 12:18:24 PM	002SMPL.D	1201354-13 10X	Sample		1.0000
53		2/3/2012 12:20:44 PM	003SMPL.D	1201354-2 100X	Sample		1.0000
54		2/3/2012 12:23:04 PM	004SMPL.D	1201354-3 100X	Sample		1.0000
55		2/3/2012 12:25:24 PM	005SMPL.D	1201354-4 10X	Sample		1.0000
56		2/3/2012 12:27:42 PM	006SMPL.D	1201354-5 100X	Sample		1.0000
57		2/3/2012 12:30:02 PM	007SMPL.D	1201354-6 100X	Sample		1.0000
58		2/3/2012 12:32:22 PM	008SMPL.D	1201354-7 100X	Sample		1.0000
59		2/3/2012 12:34:42 PM	009SMPL.D	1201354-8 100X	Sample		1.0000
60		2/3/2012 12:37:02 PM	010SMPL.D	1201354-9 100X	Sample		1.0000
61		2/3/2012 12:39:22 PM	011SMPL.D	CCV	6-CCV		1.0000

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
62		2/3/2012 12:41:40 PM	012SMPL.D	CCB	6-CCB		1.0000
63		2/3/2012 12:43:59 PM	013SMPL.D	1201354-10 10X	Sample		1.0000
64		2/3/2012 12:46:17 PM	014SMPL.D	1201354-11 100X	Sample		1.0000
65		2/3/2012 12:55:04 PM	015SMPL.D As, Se only	1201358-1 50X	Sample		1.0000
66		2/3/2012 12:57:22 PM	016SMPL.D	CCV	6-CCV		1.0000
67		2/3/2012 12:59:40 PM	017SMPL.D	CCB	6-CCB		1.0000

Analyte Table

		52 Cr [1]		75 As [1]		78 Se [1]		109 Ag [1]		111 Cd [1]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
1	blank		586.71		7.33		2.67		3.33		2.66
2	blank	0.006	510.03	0.000	5.33	-0.006	2.67	0.000	2.22	-0.001	1.33
3	blank	0.000	496.70	0.000	5.67	0.000	3.20	0.000	4.44	0.000	2.66
4	H/1000	0.519	2763.69	0.094	75.67	0.089	11.47	0.013	82.23	0.039	57.28
5	H/100	4.954	22830.20	0.994	776.02	0.982	96.27	0.112	722.25	0.312	462.81
6	H/10	50.260	219037.12	9.646	7231.30	9.916	908.16	1.043	6463.64	3.116	4461.47
7	HIGH	499.974	2183608.20	100.035	75274.60	100.009	9167.52	9.996	62249.47	29.988	44082.74
8	ICV	99.494	453452.35	18.500	14517.48	19.580	1873.98	1.907	12381.65	5.856	8773.19
9	ICB	0.019	566.70	0.008	11.00	0.007	3.73	0.002	15.56	0.008	13.29
10	CRI1	0.480	2590.34	0.104	82.67	0.099	12.40	0.011	74.44	0.034	50.61
11	CRI2	0.929	4544.15	0.209	161.00	0.199	21.47	0.015	95.56	0.073	106.55
12	ICSA	0.283	1820.19	0.015	18.00	-0.012	2.53	0.012	83.34	0.092	141.23
13	ICSAB	50.915	230137.16	10.037	7804.89	10.287	976.96	1.042	6703.74	3.141	4712.45
14	CCV	49.822	216843.81	9.714	7272.98	10.028	917.23	1.020	6321.35	3.167	4608.63
15	CCB	0.009	526.70	0.005	9.00	-0.001	3.07	0.001	10.00	0.003	5.94
16	EX120201-2MB...	0.020	630.04	0.002	8.00	-0.014	2.27	0.001	13.33	0.003	7.30
17	EXM120201-2RV...	0.518	2586.99	0.082	62.33	0.100	11.73	0.011	68.89	0.022	31.93
18	EXM120201-2LC...	49.596	218281.90	9.477	7175.94	9.903	915.63	1.010	6332.48	3.001	4334.18
19	1201363-11 10X	0.109	1016.76	0.037	34.00	0.018	5.20	0.002	17.78	0.022	33.97
20	1201363-11D 10X	0.084	916.74	0.037	34.00	0.008	4.27	0.001	12.22	0.022	33.95
21	1201363-11L 50X	0.032	673.38	0.012	14.67	-0.021	1.60	0.001	10.00	0.005	9.99
22	1201363-11MS ...	49.906	214737.91	9.697	7178.60	10.083	911.50	0.990	6061.24	3.022	4380.93
23	1201363-11MSD...	49.861	209332.35	9.602	6935.16	9.802	864.82	0.997	5962.32	3.006	4262.35
24	1201358-2 50X	0.016	613.38	0.725	542.68	0.652	62.27	0.000	2.22	0.006	11.98
25	CCV	50.344	218271.54	9.819	7323.67	10.018	912.83	1.045	6452.54	3.068	4429.46
26	CCB	0.015	553.37	-0.001	5.00	-0.018	1.73	0.002	15.55	0.002	5.31
27	IP120202-2MB ...	0.018	570.03	0.003	8.00	-0.011	2.27	0.000	6.67	0.002	5.32
28	IM120202-2LCS...	50.702	220994.81	9.704	7276.31	10.264	940.16	0.985	6114.61	3.099	4474.87
29	1201354-1 10X	4.679	20997.66	5.597	4219.23	11.497	1057.50	0.038	244.45	0.101	150.20
30	1201354-1D 10X	4.471	19913.04	5.312	3971.84	15.758	1436.33	0.064	400.01	0.123	178.93
31	1201354-1L 50X	0.947	4524.18	1.091	798.69	2.198	197.87	0.015	92.23	0.021	31.63

Analyte Table

		52 Cr [1]		75 As [1]		78 Se [1]		109 Ag [1]		111 Cd [1]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
32	1201354-1MS 10X	55.010	236342.34	15.096	11157.84	22.338	2012.93	1.042	6378.04	3.143	4440.53
33	1201354-1MSD ...	55.437	237056.07	15.325	11271.92	21.055	1889.18	1.055	6421.39	3.123	4437.07
34	ZZZZZZ	2.993	13369.50	8.739	6459.30	25.905	2332.84	0.024	148.89	0.065	97.22
35	ZZZZZZ	2.467	11191.00	9.897	7367.02	55.318	5013.44	0.019	124.45	0.097	142.42
36	ZZZZZZ	2.103	9499.84	3.961	2913.27	15.014	1345.13	0.016	102.22	0.052	77.68
37	CCV	50.257	215699.49	9.744	7193.95	10.087	909.76	1.026	6266.89	3.106	4356.84
38	CCB	0.041	653.38	0.002	7.33	-0.011	2.27	0.000	4.44	0.003	5.98
39	ZZZZZZ	3.151	13969.96	11.687	8590.96	42.683	3821.52	0.028	176.67	0.087	126.43
40	ZZZZZZ	2.605	11634.63	5.779	4247.57	41.995	3757.77	0.018	115.56	0.071	103.67
41	ZZZZZZ	3.386	14717.31	7.746	5599.65	33.751	2971.48	0.018	114.45	0.070	101.86
42	ZZZZZZ	4.731	20547.01	6.878	5019.79	16.897	1503.27	0.038	232.23	0.103	148.90
43	ZZZZZZ	3.834	17029.62	9.961	7386.70	27.429	2478.06	0.028	175.56	0.087	129.63
44	ZZZZZZ	6.453	28038.45	5.269	3875.48	2.130	194.00	0.045	281.12	0.083	122.79
45	ZZZZZZ	3.537	15888.50	16.556	12380.38	71.384	6501.17	0.025	158.89	0.078	116.73
46	ZZZZZZ	3.373	15424.76	1.913	1459.74	1.163	111.20	0.018	116.67	0.080	119.13
47	ZZZZZZ	7.544	33391.86	6.673	5011.80	0.562	54.93	0.027	175.56	0.102	153.12
48	1201358-1 50X	2.024	9336.43	63.007	47160.87	32.997	3010.28	0.014	88.89	0.016	26.02
49	CCV	50.242	215375.09	9.731	7175.93	10.087	908.56	1.015	6192.42	2.987	4252.13
50	CCB	-0.012	440.03	0.002	7.00	-0.022	1.33	0.002	14.44	0.001	3.32
51	1201354-12 10X	3.381	14914.04	1.942	1428.73	1.035	95.87	0.016	104.45	0.086	124.50
52	1201354-13 10X	7.260	31835.60	6.779	5041.13	0.668	63.87	0.026	164.45	0.114	166.47
53	1201354-2 100X	0.376	2103.60	0.929	675.02	2.760	245.73	0.004	27.78	0.004	8.97
54	1201354-3 100X	0.280	1723.51	1.021	752.02	5.644	505.48	0.002	18.89	0.010	16.77
55	1201354-4 10X	2.124	9566.61	3.874	2844.93	14.810	1325.12	0.014	91.11	0.044	64.39
56	1201354-5 100X	0.322	1840.20	1.210	861.36	4.308	374.14	0.000	3.33	0.007	12.18
57	1201354-6 100X	0.262	1626.82	0.652	477.34	4.349	386.01	0.003	25.56	0.009	15.56
58	1201354-7 100X	0.333	1946.86	0.757	560.01	3.357	302.40	0.002	17.78	0.016	25.10
59	1201354-8 100X	0.422	2296.94	0.686	500.68	1.755	157.47	0.005	34.44	0.013	20.15
60	1201354-9 100X	0.366	2060.23	0.972	707.02	2.771	246.67	0.001	13.33	0.012	18.98
61	CCV	50.064	210862.25	9.635	6982.52	10.096	893.50	1.010	6054.59	3.067	4299.55
62	CCB	0.014	530.04	-0.001	4.67	0.018	4.53	0.002	14.44	0.019	25.32

Analyte Table

		52 Cr [1]		75 As [1]		78 Se [1]		109 Ag [1]		111 Cd [1]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
63	1201354-10 10X	6.247	27063.52	5.116	3750.45	2.206	200.00	0.048	297.79	0.083	119.49
64	1201354-11 100X	0.393	2156.90	1.717	1233.72	7.369	644.94	0.005	35.55	0.009	15.08
65	1201358-1 50X	0.221	1453.47	0.575	420.68	0.011	4.40	0.023	138.89	0.014	22.17
66	CCV	49.992	212182.65	9.666	7057.89	9.966	888.83	0.988	5971.21	3.016	4232.76
67	CCB	0.011	520.04	0.010	11.67	0.002	3.20	0.003	18.89	0.004	7.32

Analyte Table

		137 Ba [1]		206 (Pb) [1]		207 (Pb) [1]		208 Pb [1]		238 U [1]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
1	blank		33.33		60.00		86.67		340.02		10.00
2	blank	0.006	36.67	-0.010	66.67	0.001	73.34	-0.002	353.35	0.000	14.44
3	blank	0.000	26.67	0.000	106.67	0.000	73.34	0.000	396.69	0.000	10.00
4	H/1000	0.175	356.69	0.050	320.02	0.059	283.35	0.059	1380.10	0.010	188.89
5	H/100	1.002	2013.56	0.509	2373.64	0.493	1943.55	0.495	9108.21	0.095	1722.35
6	H/10	10.294	19820.33	5.115	22087.68	5.065	18606.02	5.119	87278.75	1.060	18197.02
7	HIGH	99.971	197514.22	49.988	215022.05	49.994	183205.98	49.988	849420.94	9.994	183189.65
8	ICV	19.810	39902.86	9.350	42288.42	9.467	36463.21	9.389	167741.77	1.911	35762.63
9	ICB	0.020	60.00	-0.005	86.67	0.005	86.67	0.005	456.70	0.001	22.22
10	CRI1	0.139	290.02	0.051	330.02	0.059	290.02	0.054	1323.43	0.011	195.56
11	CRI2	0.271	546.71	0.104	563.38	0.110	483.36	0.099	2113.50	0.023	405.57
12	ICSA	0.078	186.68	0.074	456.70	0.065	333.36	0.071	1730.14	0.001	28.89
13	ICSAB	10.493	21168.76	5.132	22731.96	5.077	19146.58	5.059	88527.21	1.033	18886.80
14	CCV	10.095	19760.14	5.222	22241.16	5.152	18682.85	5.133	86332.12	0.991	17490.68
15	CCB	-0.007	13.33	-0.015	50.00	0.004	86.67	-0.004	336.68	0.000	16.66
16	EX120201-2MB...	0.073	170.01	0.000	120.01	0.006	103.34	0.005	536.70	0.017	310.01
17	EXM120201-2RV...	0.125	253.35	0.062	353.36	0.049	240.02	0.057	1300.10	0.027	444.46
18	EXM120201-2LC...	9.934	19299.50	4.886	21276.23	4.945	18332.23	4.950	85127.29	0.982	17349.31
19	1201363-11 10X	8.066	15568.50	0.265	1256.79	0.247	983.41	0.249	4657.19	0.032	582.24
20	1201363-11D 10X	8.013	15521.86	0.256	1200.11	0.253	990.09	0.265	4853.90	0.027	484.46
21	1201363-11L 50X	1.635	3087.12	0.030	243.35	0.066	316.69	0.054	1326.75	0.007	122.22
22	1201363-11MS ...	17.620	34329.04	5.031	21676.93	5.201	19066.57	5.101	86783.57	1.020	17641.92
23	1201363-11MSD...	17.780	33888.29	5.390	21790.45	5.213	17938.34	5.272	84170.55	1.026	17382.69
24	1201358-2 50X	11.420	21822.97	0.300	1380.13	0.295	1140.11	0.301	5447.34	0.162	2805.88
25	CCV	10.090	19593.18	5.064	21923.98	4.989	18382.21	4.981	85162.51	1.042	17829.84
26	CCB	-0.004	20.00	-0.011	63.33	-0.002	66.67	-0.007	286.68	0.000	8.89
27	IP120202-2MB ...	0.010	43.33	-0.012	60.00	-0.004	60.00	-0.001	393.35	0.013	220.00
28	IM120202-2LCS...	9.632	18702.14	5.232	22050.82	5.149	18475.69	5.173	86118.51	0.990	17392.70
29	1201354-1 10X	125.079	245643.10	24.377	107846.89	10.116	38183.75	13.414	234658.22	34.085	606159.15
30	1201354-1D 10X	117.109	225229.51	22.622	98870.99	9.261	34535.49	12.415	214554.13	33.028	570528.00
31	1201354-1L 50X	25.003	46607.80	4.921	20715.40	2.122	7648.98	2.710	45251.69	6.933	113267.92

Analyte Table

		137 Ba [1]		206 (Pb) [1]		207 (Pb) [1]		208 Pb [1]		238 U [1]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
32	1201354-1MS 10X	139.077	263953.08	28.167	119878.76	15.056	54633.08	17.985	302533.01	32.987	561193.02
33	1201354-1MSD ...	139.061	265425.62	28.710	126315.52	15.360	57610.29	18.269	317689.06	34.261	586766.03
34	ZZZZZZ	101.768	198427.15	25.443	108321.05	7.404	26908.90	11.537	194269.77	130.241	2257039.45
35	ZZZZZZ	120.707	232681.92	50.639	218897.58	7.836	28926.19	17.256	294973.97	357.226	6301541.91
36	ZZZZZZ	66.962	129301.38	16.427	71655.14	6.364	23700.00	8.750	150981.33	37.176	643894.10
37	CCV	10.415	19649.96	5.068	21520.09	5.027	18155.22	5.135	86073.31	1.028	17763.13
38	CCB	0.028	73.33	-0.006	83.34	0.000	73.34	0.000	390.02	0.005	82.22
39	ZZZZZZ	170.201	323074.66	31.729	136601.58	8.863	32570.44	13.949	237491.97	214.686	3707706.83
40	ZZZZZZ	166.229	316880.73	29.517	125028.07	8.289	29961.76	12.996	217701.57	237.104	4046617.62
41	ZZZZZZ	136.765	258799.67	26.135	113644.02	7.554	28044.65	11.739	201902.73	129.170	2186821.20
42	ZZZZZZ	77.926	148324.82	21.042	92259.04	9.982	37352.15	12.516	217004.80	247.144	4280149.93
43	ZZZZZZ	81.413	158662.40	22.545	99032.43	7.633	28625.71	11.047	191909.92	137.410	2409434.71
44	ZZZZZZ	78.197	151108.96	14.065	61951.78	10.591	39748.30	11.548	201024.63	23.949	416180.39
45	ZZZZZZ	92.105	179436.52	36.109	161612.68	9.090	34732.21	15.170	268505.70	273.232	4732557.53
46	ZZZZZZ	46.418	90511.35	6.222	27383.23	5.419	20318.23	5.646	98196.24	2.320	40824.76
47	ZZZZZZ	97.836	194158.28	9.361	41610.15	8.889	33660.01	9.067	159226.16	1.086	19115.98
48	1201358-1 50X	1049.658	2001449.35	349.194	1521887.89	387.742	1439910.60	373.274	6427014.90	12.222	209367.52
49	CCV	10.087	19319.53	5.099	21419.72	5.189	18545.83	5.078	84233.47	1.033	17655.27
50	CCB	0.014	50.00	0.008	133.34	0.018	126.68	0.007	493.37	0.003	52.22
51	1201354-12 10X	46.057	88114.46	6.196	26484.78	5.737	20872.39	5.798	97895.67	1.882	32543.98
52	1201354-13 10X	98.627	189965.24	9.324	41409.63	8.629	32644.24	8.944	156924.37	1.089	18461.76
53	1201354-2 100X	10.467	19790.17	2.604	10897.96	0.780	2827.08	1.191	19906.66	13.320	226882.73
54	1201354-3 100X	12.213	22974.61	5.255	22251.01	0.765	2827.10	1.785	30142.59	38.851	648775.76
55	1201354-4 10X	67.959	129043.25	16.550	71481.23	6.562	24177.45	8.855	151248.09	37.940	642993.86
56	1201354-5 100X	17.164	31873.81	3.203	13573.53	0.907	3330.56	1.409	23822.74	22.539	374450.66
57	1201354-6 100X	17.234	32745.77	3.094	13199.84	0.807	2990.45	1.341	22848.85	25.181	425816.68
58	1201354-7 100X	14.108	26573.86	2.637	11585.08	0.775	2950.43	1.182	20740.46	12.824	219367.31
59	1201354-8 100X	7.872	14614.30	2.205	9566.90	1.015	3787.34	1.312	22647.62	26.324	435607.37
60	1201354-9 100X	8.465	15581.94	2.248	9534.87	0.794	2917.12	1.109	18793.67	13.654	228312.81
61	CCV	10.051	18952.54	5.114	21406.59	5.286	18826.12	5.106	84393.60	1.011	17383.80
62	CCB	0.019	56.67	-0.008	73.34	0.003	80.00	0.000	383.36	0.005	86.72

Analyte Table

		137 Ba [1]		206 (Pb) [1]		207 (Pb) [1]		208 Pb [1]		238 U [1]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
63	1201354-10 10X	79.318	148840.17	13.786	61108.01	10.726	40520.46	11.435	200302.19	23.685	409609.33
64	1201354-11 100X	9.659	17767.62	3.775	15889.27	0.968	3523.93	1.578	26468.61	28.339	475280.51
65	1201358-1 50X	0.022	70.00	0.050	323.35	0.063	303.35	0.062	1446.77	0.001	20.00
66	CCV	10.248	19339.60	5.100	21713.66	5.002	18118.56	5.072	85243.76	1.023	17681.92
67	CCB	0.007	36.67	-0.016	43.33	-0.005	53.33	-0.002	346.68	0.002	45.56

ISTD Table

		103 Rh (ISTD) [1]		115 In (ISTD) [1]		195 Pt (ISTD) [1]		209 Bi (ISTD) [1]	
	Sample Name	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%
1	blank	130786.73		118854.41		42151.48		62256.61	
2	blank	131253.58	100.0	118845.62	100.0	41923.63	100.0	61463.16	100.0
3	blank	133223.47	100.0	120833.16	100.0	43181.14	100.0	62956.33	100.0
4	H/1000	145391.42	109.1	129868.40	107.5	46731.67	108.2	66939.94	106.3
5	H/100	152563.83	114.5	137263.05	113.6	48895.27	113.2	72060.46	114.5
6	H/10	147604.29	110.8	133290.56	110.3	46387.21	107.4	69950.51	111.1
7	HIGH	148255.16	111.3	136960.18	113.3	49520.49	114.7	70027.92	111.2
8	ICV	154547.38	116.0	139570.78	115.5	50567.47	117.1	73437.66	116.6
9	ICB	132298.76	99.3	118958.69	98.4	42261.50	97.9	61556.80	97.8
10	CRI1	145015.69	108.9	129820.54	107.4	46334.09	107.3	68367.02	108.6
11	CRI2	146149.32	109.7	132767.62	109.9	46748.09	108.3	69850.43	111.0
12	ICSA	150770.60	113.2	139647.48	115.6	48450.51	112.2	73245.59	116.3
13	ICSAB	153092.89	114.9	139646.33	115.6	49346.31	114.3	71759.37	114.0
14	CCV	147403.86	110.6	135494.29	112.1	47664.57	110.4	69006.46	109.6
15	CCB	132241.91	99.3	120558.44	99.8	42442.26	98.3	62417.08	99.1
16	EX120201-2MB...	146427.84	109.9	133587.11	110.6	48286.69	111.8	70774.64	112.4
17	EXM120201-2RV...	136413.09	102.4	125063.74	103.5	43722.39	101.3	64224.79	102.0
18	EXM120201-2LC...	149086.34	111.9	134456.65	111.3	47714.04	110.5	70553.43	112.1
19	1201363-11 10X	146888.32	110.3	133549.27	110.5	47537.51	110.1	69907.50	111.0
20	1201363-11D 10X	147663.04	110.8	134020.72	110.9	46711.69	108.2	68809.64	109.3
21	1201363-11L 50X	144033.01	108.1	129601.29	107.3	44240.60	102.5	68420.38	108.7
22	1201363-11MS ...	145715.70	109.4	134975.22	111.7	46708.37	108.2	69769.58	110.8
23	1201363-11MSD...	142184.96	106.7	132007.27	109.2	45758.85	106.0	65493.38	104.0
24	1201358-2 50X	145808.29	109.4	132288.79	109.5	46811.84	108.4	68628.14	109.0
25	CCV	146845.75	110.2	134433.49	111.3	46213.19	107.0	70111.56	111.4
26	CCB	133125.40	99.9	119536.19	98.9	42773.01	99.1	62594.33	99.4
27	IP120202-2MB ...	134087.70	100.6	121492.59	100.5	43468.40	100.7	63585.57	101.0
28	IM120202-2LCS...	147631.25	110.8	134432.31	111.3	47463.98	109.9	68272.94	108.4
29	1201354-1 10X	148315.22	111.3	136127.17	112.7	48042.51	111.3	71983.93	114.3
30	1201354-1D 10X	147110.14	110.4	133310.20	110.3	46694.77	108.1	71102.43	112.9
31	1201354-1L 50X	143098.34	107.4	129143.83	106.9	44143.52	102.2	68172.71	108.3

Batch Summary Report

ISTD Table

		103 Rh (ISTD) [1]		115 In (ISTD) [1]		195 Pt (ISTD) [1]		209 Bi (ISTD) [1]	
	Sample Name	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%
32	1201354-1MS 10X	145560.23	109.3	131554.49	108.9	45972.43	106.5	69247.39	110.0
33	1201354-1MSD ...	144869.69	108.7	132294.69	109.5	46276.58	107.2	71582.62	113.7
34	ZZZZZZ	145508.94	109.2	135141.71	111.8	46848.64	108.5	69254.31	110.0
35	ZZZZZZ	146549.06	110.0	133617.62	110.6	47664.39	110.4	70359.16	111.8
36	ZZZZZZ	144580.54	108.5	133854.15	110.8	46805.18	108.4	70918.42	112.6
37	CCV	145357.62	109.1	130612.46	108.1	46654.57	108.0	68778.95	109.2
38	CCB	132603.63	99.5	118692.82	98.2	42148.27	97.6	63117.08	100.3
39	ZZZZZZ	144742.92	108.6	131570.44	108.9	46691.82	108.1	70054.67	111.3
40	ZZZZZZ	144676.12	108.6	132134.39	109.4	46109.82	106.8	68923.57	109.5
41	ZZZZZZ	142285.29	106.8	131158.49	108.5	45751.73	106.0	70737.08	112.4
42	ZZZZZZ	143630.13	107.8	131922.32	109.2	46814.89	108.4	71333.95	113.3
43	ZZZZZZ	146065.35	109.6	135070.71	111.8	47380.19	109.7	71451.66	113.5
44	ZZZZZZ	144688.27	108.6	133937.37	110.8	46952.59	108.7	71616.30	113.8
45	ZZZZZZ	147276.15	110.5	135054.23	111.8	46799.04	108.4	72838.25	115.7
46	ZZZZZZ	149682.92	112.4	135130.04	111.8	47527.23	110.1	71350.68	113.3
47	ZZZZZZ	147803.21	110.9	137550.67	113.8	47520.98	110.1	72185.00	114.7
48	1201358-1 50X	147480.02	110.7	132179.74	109.4	46283.76	107.2	70969.19	112.7
49	CCV	145179.69	109.0	132528.22	109.7	46136.29	106.8	68028.28	108.1
50	CCB	131042.36	98.4	117546.56	97.3	42054.24	97.4	60840.10	96.6
51	1201354-12 10X	144393.13	108.4	132578.54	109.7	46698.37	108.1	69304.14	110.1
52	1201354-13 10X	146342.72	109.8	133497.95	110.5	45765.11	106.0	72117.73	114.6
53	1201354-2 100X	142000.17	106.6	130905.73	108.3	46015.99	106.6	67409.23	107.1
54	1201354-3 100X	143939.22	108.0	130241.38	107.8	45137.01	104.5	68641.28	109.0
55	1201354-4 10X	144402.43	108.4	131595.68	108.9	45812.27	106.1	70209.42	111.5
56	1201354-5 100X	139277.81	104.5	128615.04	106.4	44882.55	103.9	68430.50	108.7
57	1201354-6 100X	142313.72	106.8	131611.66	108.9	45691.69	105.8	68908.68	109.5
58	1201354-7 100X	144124.16	108.2	130431.68	107.9	46223.43	107.0	70805.35	112.5
59	1201354-8 100X	141994.99	106.6	128532.05	106.4	44752.64	103.6	69782.81	110.8
60	1201354-9 100X	142076.31	106.6	127392.51	105.4	45183.65	104.6	68296.89	108.5
61	CCV	142656.92	107.1	130498.65	108.0	46434.19	107.5	67804.32	107.7
62	CCB	127752.47	95.9	115186.84	95.3	41064.51	95.1	61055.33	97.0

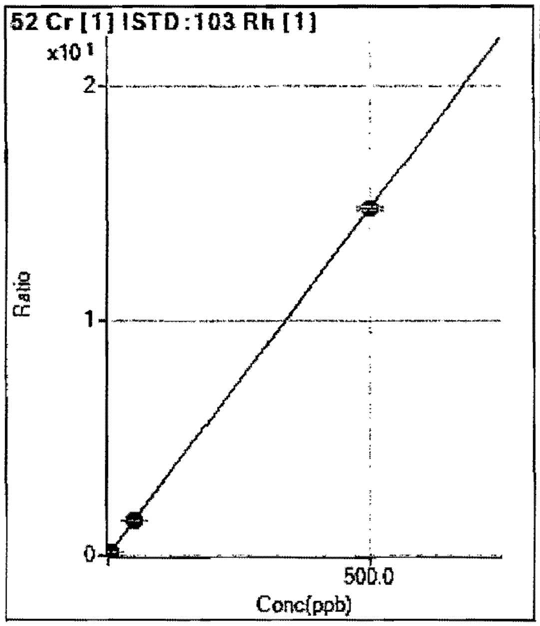
ISTD Table

		103 Rh (ISTD) [1]		115 In (ISTD) [1]		195 Pt (ISTD) [1]		209 Bi (ISTD) [1]	
	Sample Name	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%
63	1201354-10 10X	144193.66	108.2	130052.95	107.6	46734.85	108.2	72043.90	114.4
64	1201354-11 100X	140867.80	105.7	127381.90	105.4	45313.95	104.9	68021.91	108.0
65	1201358-1 50X	142010.69	106.6	129766.97	107.4	45043.46	104.3	67968.77	108.0
66	CCV	143753.37	107.9	130668.77	108.1	46704.79	108.2	68953.43	109.5
67	CCB	128282.56	96.3	115899.70	95.9	41950.49	97.2	60763.69	96.5

Calibration for 003SMPL.D

Batch Folder:	C:¥ICPMH¥1¥DATA¥12B03m00.B¥
Analysis File:	12B03m00.batch.xml
DA Date-Time:	2/3/2012 1:04:07 PM
Calibration Title:	
Calibration Method:	External Calibration
VIS Interpolation Fit:	
Tune Step:	#1 hehe.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	003CALB_12B03j00.D	blank	2/3/2012 10:00:57 AM
2	004CALS_12B03j00.D	H/1000	2/3/2012 10:03:18 AM
3	005CALS_12B03j00.D	H/100	2/3/2012 10:05:37 AM
4	006CALS_12B03j00.D	H/10	2/3/2012 10:07:55 AM
5	007CALS_12B03j00.D	HIGH	2/3/2012 10:10:11 AM
6			



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	496.70	0.0037	P	26.6
2	☐	0.500	0.519	2763.69	0.0190	P	3.1
3	☐	5.000	4.954	22830.20	0.1496	P	2.2
4	☐	50.000	50.260	219037.12	1.4840	P	0.4
5	☐	500.000	499.974	2183608.20	14.7292	A	1.1
6	☐	100.000					

y = 0.0295 * x + 0.0037

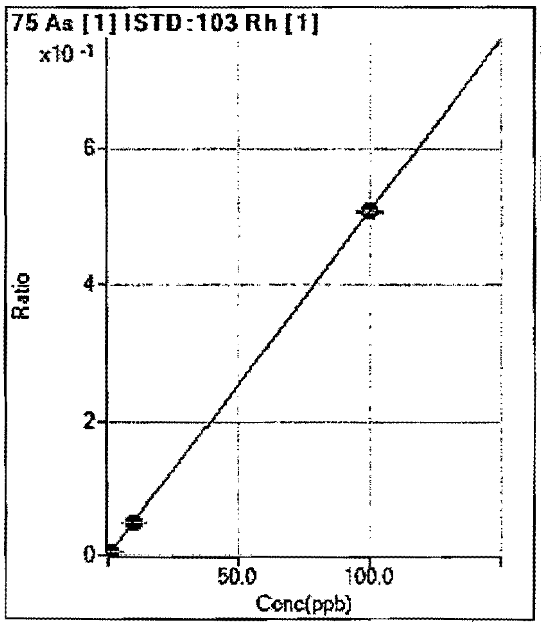
R = 1.0000

DL = 0.1009

BEC = 0.1265

Weight: None

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5.67	0.0000	P	44.4
2	☐	0.100	0.094	75.67	0.0005	P	5.1
3	☐	1.000	0.994	776.02	0.0051	P	1.6
4	☐	10.000	9.646	7231.30	0.0490	P	1.3
5	☐	100.000	100.035	75274.60	0.5077	P	0.7
6	☐	20.000					

y = 0.0051 * x + 4.2523E-005

R = 1.0000

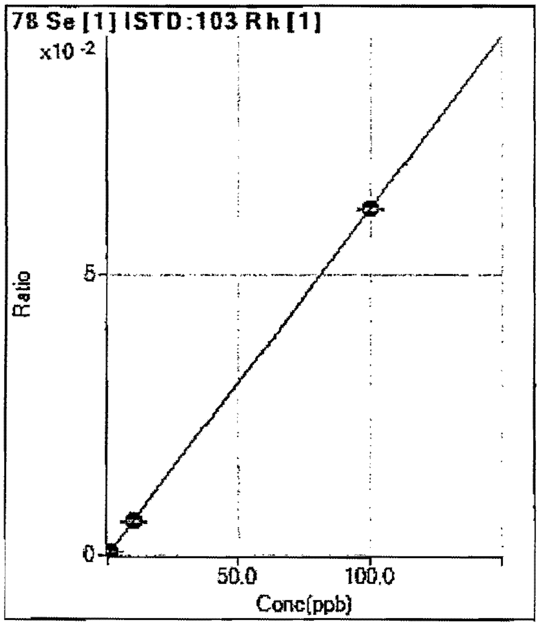
DL = 0.01117

BEC = 0.008379

Weight: None

Min Conc: <None>

Calibration for 003SMPL.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.20	0.0000	P	12.2
2	☐	0.100	0.089	11.47	0.0001	P	33.6
3	☐	1.000	0.982	96.27	0.0006	P	8.1
4	☐	10.000	9.916	908.16	0.0062	P	3.6
5	☐	100.000	100.009	9167.52	0.0618	P	0.6
6	☐	20.000					

y = 6.1806E-004 * x + 2.4013E-005

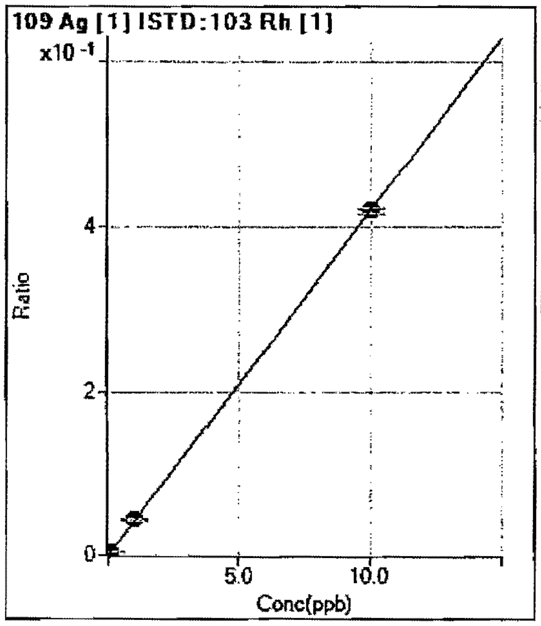
R = 1.0000

DL = 0.01416

BEC = 0.03885

Weight: None

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4.44	0.0000	P	43.0
2	☐	0.010	0.013	82.23	0.0006	P	27.9
3	☐	0.100	0.112	722.25	0.0047	P	6.1
4	☐	1.000	1.043	6463.64	0.0438	P	7.3
5	☐	10.000	9.996	62249.47	0.4199	P	1.6
6	☐	2.000					

y = 0.0420 * x + 3.3318E-005

R = 1.0000

DL = 0.001023

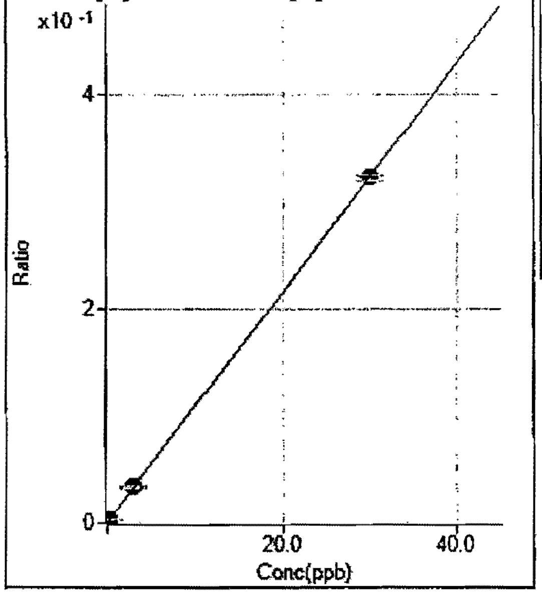
BEC = 0.0007932

Weight: None

Min Conc: <None>

Calibration for 003SMPL.D

111 Cd [1] ISTD:115 In [1]



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2.66	0.0000	P	87.0
2	☐	0.030	0.039	57.28	0.0004	P	13.3
3	☐	0.300	0.312	462.81	0.0034	P	3.9
4	☐	3.000	3.116	4461.47	0.0335	P	1.9
5	☐	30.000	29.988	44082.74	0.3219	P	1.6
6	☐	6.000					

y = 0.0107 * x + 2.2152E-005

R = 1.0000

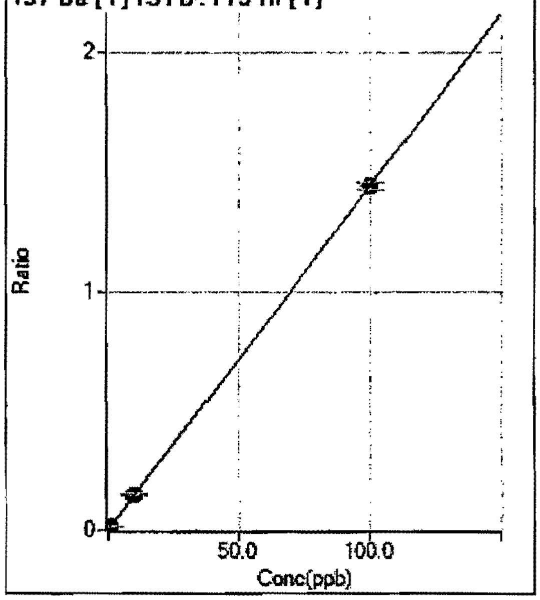
DL = 0.005384

BEC = 0.002064

Weight: None

Min Conc: <None>

137 Ba [1] ISTD:115 In [1]



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0002	P	86.6
2	☐	0.100	0.175	356.69	0.0027	P	13.9
3	☐	1.000	1.002	2013.56	0.0147	P	12.6
4	☐	10.000	10.294	19820.33	0.1487	P	2.9
5	☐	100.000	99.971	197514.22	1.4424	P	2.0
6	☐	20.000					

y = 0.0144 * x + 2.1829E-004

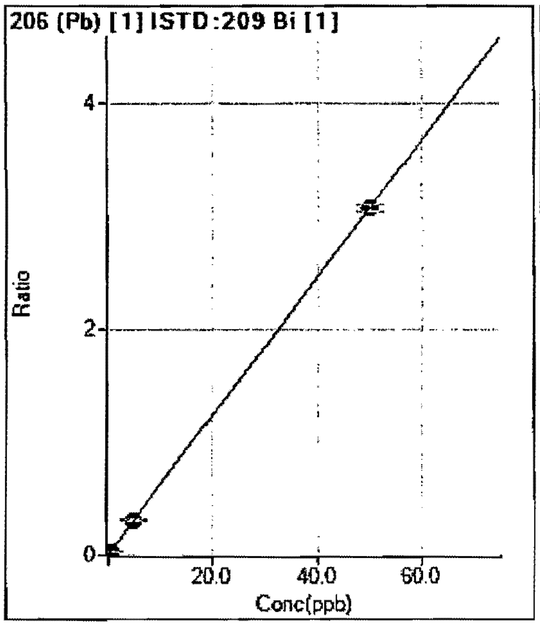
R = 1.0000

DL = 0.03931

BEC = 0.01513

Weight: None

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	106.67	0.0017	P	23.8
2	☐	0.050	0.050	320.02	0.0048	P	16.7
3	☐	0.500	0.509	2373.64	0.0329	P	4.3
4	☐	5.000	5.115	22087.68	0.3158	P	3.7
5	☐	50.000	49.988	215022.05	3.0713	P	2.2
6	☐	10.000					

y = 0.0614 * x + 0.0017

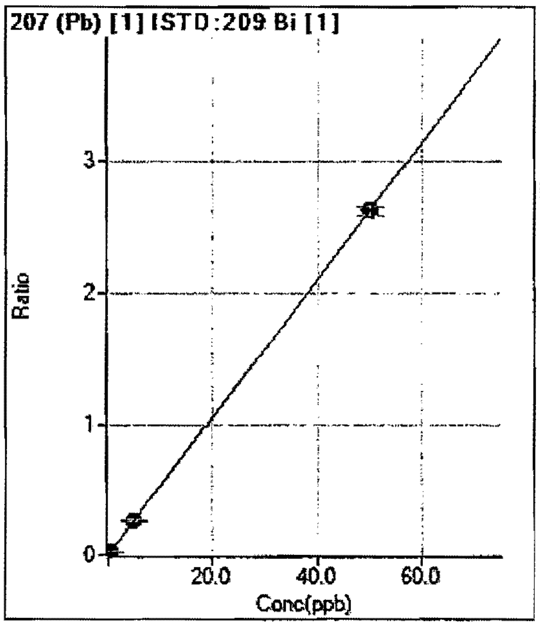
R = 1.0000

DL = 0.01973

BEC = 0.02761

Weight: None

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	73.34	0.0012	P	41.5
2	☐	0.050	0.059	283.35	0.0042	P	14.1
3	☐	0.500	0.493	1943.55	0.0270	P	0.8
4	☐	5.000	5.065	18606.02	0.2662	P	6.3
5	☐	50.000	49.994	183205.98	2.6171	P	2.8
6	☐	10.000					

y = 0.0523 * x + 0.0012

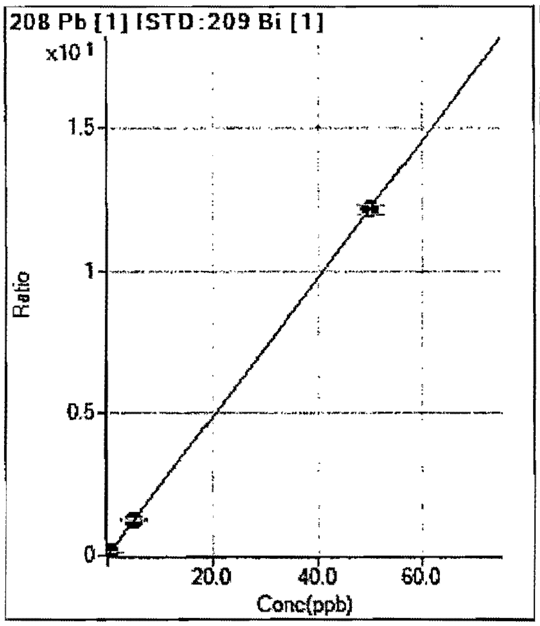
R = 1.0000

DL = 0.0277

BEC = 0.02224

Weight: None

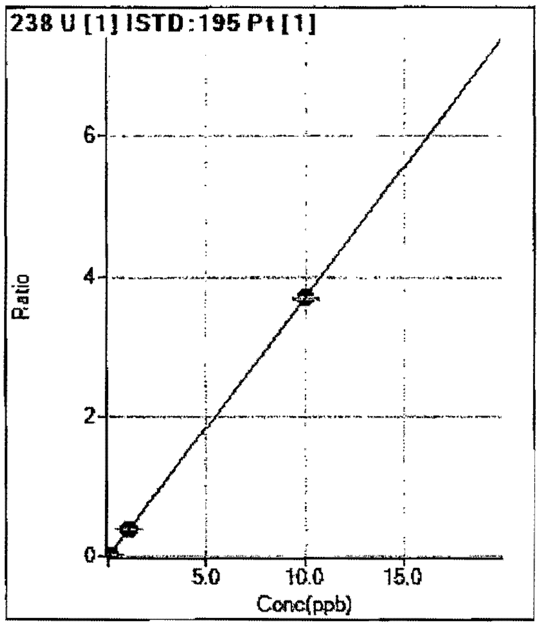
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	396.69	0.0063	P	24.4
2	☐	0.050	0.059	1380.10	0.0206	P	10.5
3	☐	0.500	0.495	9108.21	0.1264	P	5.0
4	☐	5.000	5.119	87278.75	1.2482	P	3.1
5	☐	50.000	49.988	849420.94	12.1333	P	2.5
6	☐	10.000					

y = 0.2426 * x + 0.0063
R = 1.0000
DL = 0.01899
BEC = 0.02598

Weight: None
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0002	P	58.9
2	☐	0.010	0.010	188.89	0.0040	P	19.1
3	☐	0.100	0.095	1722.35	0.0352	P	2.0
4	☐	1.000	1.060	18197.02	0.3925	P	3.2
5	☐	10.000	9.994	183189.65	3.6996	P	1.1
6	☐	2.000					

y = 0.3702 * x + 2.3386E-004
R = 1.0000
DL = 0.001116
BEC = 0.0006318

Weight: None
Min Conc: <None>

Header Information for Analytical Run: Hg120206-1

Analyst: Sheri Lafferty

Standards:

Stock A: 10ppm (ST120127-1)
Stock B: 10ppm (ST120127-5)
Daily standards made by diluting stock solution 100X

Reagents:

See digestion log

Pipettes Used:

M-57 ----- 0.01mL to 0.1mL
M-61 ----- 0.1mL to 1.0mL
M-1010---1.0mL to 5.0mL

Method of Dilution:

2X--------Dilution made by diluting 5.0ml of sample to 10ml final volume.
5X--------Dilution made by diluting 2.0ml of sample to 10ml final volume
10X-----Dilution made by diluting 1.0ml of sample to 10ml final volume
20X-----Dilution made by diluting 0.5ml of sample to 10ml final volume
50X-----Dilution made by diluting 0.2ml of sample to 10ml final volume
100X---Dilution made by diluting 0.1ml of sample to 10ml final volume
500X---Dilution made by diluting a 5X dilution 100X
1000X-Dilution made by diluting a 10X dilution 100X

Daily Maintenance:

1. Check/ Change peristaltic pump tubing
2. Check gas liquid seperator for deposits, clean if necessary
3. Check/ Refill rinse water & stannous chloride reservoirs

Daily Maintenance done by: SL

Monthly Maintenance:

1. Check/ Clean sample and reference cells
2. Check/ Change Nafion cartridge

Monthly Maintenance done by: SL 1/25/2012

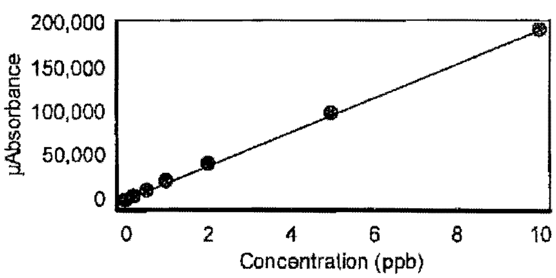
Report Generated By CETAC QuickTrace
Analyst: sheri.lafferty
Worksheet file: C:\Program Files\QuickTrace\Worksheets\HG120206-1.wsz
Date Started: 2/6/2012 11:48:39 AM
Comment:

Results

Sample Name				Type	Date/Time	Conc (ppb)	%RSD	Flags
Calibration Blank				STD	02/07/12 10:30:47 am	0.00000	11.86	
Replicates	-25.2	-32.3	-32.6	-32.3				
Standard #1 (0.20 ppb)				STD	02/07/12 10:32:55 am	0.20000	0.52	
Replicates	3950.1	3958.2	3942.1	3911.5				
Standard #2 (0.50 ppb)				STD	02/07/12 10:35:03 am	0.50000	1.38	
Replicates	9606.6	9657.2	9765.2	9910.0				
Standard #3 (1.0 ppb)				STD	02/07/12 10:37:12 am	1.00000	1.02	
Replicates	20354.9	20559.0	20727.1	20835.5				
Standard #4 (2.0 ppb)				STD	02/07/12 10:39:21 am	2.00000	0.59	
Replicates	40000.3	40246.5	40430.9	40545.9				
Standard #5 (5.0 ppb)				STD	02/07/12 10:41:31 am	5.00000	0.59	
Replicates	97772.9	98333.8	98785.5	99115.3				
Standard #6 (10.0 ppb)				STD	02/07/12 10:43:41 am	10.00000	0.61	
Replicates	192218.1	193364.0	194288.2	194965.7				

Calibration

Equation: A = 632.260 + 19377.250C
R2: 0.99987
SEE: 868.5891
Flags:



Sample Name				Type	Date/Time	Conc (ppb)	%RSD	Flags
ICV				ICV	02/07/12 10:45:52 am	1.06000	0.36	
Replicates	21154.0	21236.6	21293.1	21332.5				
% Recovery	106.42							

Sample Name					Type	Date/Time	Conc (ppb)	%RSD	Flags
ICB					ICB	02/07/12 10:48:04 am	-0.03180	94.08	
Replicates	37.9	17.4	7.5	3.1					
CRA					UNK	02/07/12 10:50:11 am	0.17600	0.98	
Replicates	3983.5	4027.4	4058.9	4073.1					
HG120206-1MB					UNK	02/07/12 10:52:18 am	-0.03090	4.71	
Replicates	33.9	32.7	36.4	33.4					
HG120206-1LCS					UNK	02/07/12 10:54:26 am	1.01000	0.79	
Replicates	19884.8	20112.0	20208.0	20233.2					
1201354-1					UNK	02/07/12 10:56:34 am	0.14800	0.77	
Replicates	3468.2	3504.3	3527.0	3523.3					
1201354-2					UNK	02/07/12 10:58:42 am	0.16200	0.46	
Replicates	3740.7	3764.7	3776.3	3778.7					
1201354-3					UNK	02/07/12 11:00:50 am	0.27800	0.33	
Replicates	5995.0	6022.0	6034.3	6040.6					
1201354-4					UNK	02/07/12 11:02:59 am	0.08540	0.06	
Replicates	2285.3	2286.8	2288.4	2286.5					
1201354-5					UNK	02/07/12 11:05:08 am	0.17900	0.44	
Replicates	4111.2	4118.0	4108.8	4077.5					
1201354-6					UNK	02/07/12 11:07:17 am	0.18600	0.84	
Replicates	4219.4	4197.1	4216.2	4278.9					
1201354-7					UNK	02/07/12 11:09:27 am	0.13200	1.45	
Replicates	3160.8	3164.9	3206.0	3260.8					
CCV					UNK	02/07/12 11:11:37 am	1.99000	0.41	
Replicates	39383.3	39177.0	39007.5	39090.3					

Sample Name				Type	Date/Time	Conc (ppb)	%RSD	Flags
CCB				UNK	02/07/12 11:14:14 am	-0.04100	2.98	
Replicates	-166.2	-167.5	-161.0	-157.0				
1201354-8				UNK	02/07/12 11:16:20 am	0.21600	0.24	
Replicates	4816.6	4822.7	4815.1	4796.0				
1201354-9				UNK	02/07/12 11:18:27 am	0.13900	2.43	
Replicates	3224.8	3314.3	3378.9	3407.1				
1201354-10				UNK	02/07/12 11:20:34 am	0.16500	0.15	
Replicates	3816.2	3818.2	3826.0	3827.7				
1201354-11				UNK	02/07/12 11:22:42 am	0.36700	0.99	
Replicates	7795.4	7793.9	7734.0	7631.7				
1201354-12				UNK	02/07/12 11:24:50 am	0.02940	1.07	
Replicates	1217.7	1207.9	1195.7	1188.5				
1201354-13				UNK	02/07/12 11:26:58 am	0.10200	0.49	
Replicates	2628.8	2621.5	2607.7	2600.4				
1201354-13D				UNK	02/07/12 11:29:06 am	0.12300	0.31	
Replicates	2997.9	3011.1	3017.0	3018.6				
1201354-13L 5X				UNK	02/07/12 11:31:15 am	-0.00337	0.82	
Replicates	573.0	566.1	561.8	566.8				
1201354-13MS				UNK	02/07/12 11:33:24 am	2.18000	0.99	
Replicates	42460.8	42556.5	42913.7	43398.5				
1201354-13MSD				UNK	02/07/12 11:35:33 am	2.19000	0.46	
Replicates	42872.4	43084.9	43229.0	43331.1				
CCV				UNK	02/07/12 11:37:42 am	2.06000	0.39	
Replicates	40434.2	40613.8	40732.8	40795.6				

Sample Name					Type	Date/Time	Conc (ppb)	%RSD	Flags
CCB					UNK	02/07/12 11:39:52 am	-0.03320	47.54	
	Replicates	-4.9	-9.9	-16.7	-16.4				
CRA					UNK	02/07/12 11:41:59 am	0.17600	0.16	
	Replicates	4049.2	4047.0	4041.7	4057.3				
CCV					UNK	02/07/12 11:44:06 am	2.08000	0.54	
	Replicates	40599.8	40831.8	40998.0	41107.4				
CCB					UNK	02/07/12 11:46:13 am	-0.03360	7.32	
	Replicates	-21.4	-18.6	-18.3	-18.8				

Miscellaneous

Percent Moisture

Method SOP642 Revision 9

Lab Name: ALS Environmental -- FC

Balance ID: 31

Date Extracted: 02/02/2012 **Oven ID:** 17 **Validated By:** tlb

Date Analyzed: 02/02/2012 **In Oven:** 2/1/2012 10:35 **Validation Date:** 02/02/2012

Analyst: Teresa Buettgenbac **Out of Oven:** 2/2/2012 7:55 **Validation Time:** 8:28:23 AM

Run ID	Prep Batch ID	QC Batch ID	Lab ID	QC Type	Dish Wt	Wet Wt	Dry Wt	Dry Wt-Dish Wt	Percent Moisture	Percent Solids	RPD
EX120201-1A	EX120201-1	EX120201-1-1	1201354-1	DUP	1.283	10.4	10.44	9.15	12.0	88.0	4
EX120201-1A	EX120201-1	EX120201-1-1	1201354-1	SMP	1.291	10.23	10.24	8.95	12.5	87.5	
EX120201-1A	EX120201-1	EX120201-1-1	1201354-10	SMP	1.296	10.97	9.287	7.99	27.2	72.8	
EX120201-1A	EX120201-1	EX120201-1-2	1201354-11	SMP	1.306	10.13	9.845	8.54	15.7	84.3	
EX120201-1A	EX120201-1	EX120201-1-2	1201354-12	SMP	1.287	10.41	10.53	9.24	11.2	88.8	
EX120201-1A	EX120201-1	EX120201-1-2	1201354-13	DUP	1.288	10.13	10.62	9.33	7.9	92.1	6
EX120201-1A	EX120201-1	EX120201-1-2	1201354-13	SMP	1.294	10.53	11.05	9.75	7.4	92.6	
EX120201-1A	EX120201-1	EX120201-1-1	1201354-2	SMP	1.285	10.31	10.83	9.54	7.4	92.6	
EX120201-1A	EX120201-1	EX120201-1-1	1201354-3	SMP	1.299	10.93	10.84	9.54	12.7	87.3	
EX120201-1A	EX120201-1	EX120201-1-1	1201354-4	SMP	1.298	10.72	10.35	9.05	15.6	84.4	
EX120201-1A	EX120201-1	EX120201-1-1	1201354-5	SMP	1.305	10.35	10.18	8.87	14.2	85.8	
EX120201-1A	EX120201-1	EX120201-1-1	1201354-6	SMP	1.324	10.68	10.48	9.16	14.2	85.8	
EX120201-1A	EX120201-1	EX120201-1-1	1201354-7	SMP	1.293	10.61	10.67	9.38	11.6	88.4	
EX120201-1A	EX120201-1	EX120201-1-1	1201354-8	SMP	1.283	10.17	9.259	7.98	21.6	78.4	
EX120201-1A	EX120201-1	EX120201-1-1	1201354-9	SMP	1.281	10.71	11.01	9.73	9.2	90.8	
EX120201-1A	EX120201-1	EX120201-1-1	EX120201-1	MB	1.294	1.294	1.294	0.00	100.0	0.0	
EX120201-1A	EX120201-1	EX120201-1-2	EX120201-1	MB	1.294	1.294	1.294	0.00	100.0	0.0	

QC Types

CAR	Carrier reference sample
LCS	Laboratory Control Sample
MB	Method Blank
MSD	Laboratory Matrix Spike Duplicate
RVS	Reporting Level Verification Standar
SYS	Sample Yield Spike

DUP	Laboratory Duplicate
LCSD	Laboratory Control Sample Duplicat
MS	Laboratory Matrix Spike
REP	Sample replicate
SMP	Field Sample

Comments:

DUP = Sample Duplicate
Wet Wt = Sample Wet Wt - Dish Wt
Dry Wt = Sample Dry Wt + Dish Wt
Dry Wt - Dish Wt = Sample Dry Wt - Dish Wt
All weight values shown above are expressed in grams.

$$\text{RPD} = \frac{|\text{Sample Value} - \text{Duplicate Value}|}{(\text{Sample Value} + \text{Duplicate Value})/2} \times 100$$

$$\%\ \text{Solids} = \frac{\text{Dry Weight}}{\text{Wet Weight}} \times 100$$

$$\%\ \text{Moisture} = \frac{(\text{Wet Weight} - \text{Dry Weight})}{\text{Wet Weight}} \times 100$$

METALS DIGESTION WORKSHEET

ALS Laboratory Group

Digestion Date 2.2.12 HCl Lot No. K33031 Method: 3050 Beaker Lot No. 1107184 Initial Prep BMS Final Prep BMS

Digestion Batch IP120202-2 HNO_3 Lot No. K23022 SOP/Rev: 806R15 Avg. Beaker Wt. (g) 21.0 Prep Start Time 0700 Prep End Time 1700

Temp 95 °C Peroxide Lot No. G42516 Balance(s): J0 Pipet(s): M-70 Digestate Wt. (g) 105.11

Form 806r20.xls (02/10/11) Note: Each Page is copied as completed and included with the workorder/run documentation; reviewed subsequently

QC Grp	Lab Sample ID	Instrument	Init Vol/Wt (mL / g)	Final Vol. (mL)	Final Wt. (g)	pH	Comments, including metals list
	1201354-1	MS/TR	See	100.0	126.1	NA	MS-4
	-1D		Lims				TR-22 Target
	-1MS						
	-1MSD						
	-2						
	-3						
	-4						
	-5						
	-6						
	-7						
	-8						
	-9						
	-10						
	-11						
	-12						
	-13						
	1201358-1	MS					-MS: ~~X~~ ICAP BMS 2.2.12
	IP120202-2MB	TR/MS					
	-2LCS						
	IM120202-2LCS						

BMS 2.2.12

QC Grp	Lab Sample ID	Init Vol/Wt. (mL / g)	Final Vol. (mL)	Final Wt. (g)

BMS 2.2.12

Spiking Information

QC	Amount
ST120103-16	1mL MS
ST110902-2	1mL C
ST110916-7	2mL Z
ST111116-1	2mL Cat

417901

ALS

MERCURY DIGESTION - SOIL

Method 7471 SOP 812/Rev 15 Date Analyzed 2.7.12 File HG120206-1** Init. [illegible] (prep.) [illegible] (analysis)

Digestion Date 2.6.12 Spike Witness N/A Time Start 1050 Time Finish 1120 Bath Temp 95°C

Tube #	Solution ID	Spike * Solution	Spike Volume (mL)	Sample **** Aliquot (g)	Final ** Volume (mL)	Comments
STD 1	0 ppb	-	-	-	100.0	
2	0.2 ppb	A	0.2	-	100.0	
3	0.5 ppb	A	0.5	-	100.0	
4	1.0 ppb	A	1.0	-	100.0	
5	2.0 ppb	A	2.0	-	100.0	
6	5.0 ppb	A	5.0	-	100.0	
7	10.0 ppb	A	10.0	-	100.0	
	ICV	B	1.0	-	100.0	
	ICB	-	-	-	100.0	
	CRA-0.2 ppb	A	0.2	-	100.0	
	SAMPLES -- Prep. Batch ID(s) HG120206-1					(see LIMs Prep. Batch report for sample info. (IDs, Aliquots, etc.)
	CCVs	A	2.0	-	100.0	2 # prepared
	CCBs	-	-	-	100.0	2 # prepared

**** Automated balance entry into LIMS.

*** See run report for run log information.

** Laboratory DI water used to make-up to final volume.

*A: 100 ppb Hg solution made from 100x dilution (1 mL/100 mL) of ST120127-1 ID

*B: 100 ppb Hg solution made from 100x dilution (1 mL/100 mL) of ST120127-5 ID (2nd source)

See run header for maintenance performed.

Digestion Cups: 1107216

Reagents: HNO_3 K23022 HCl K29026 $SnCl_2$ RG120125-7 $KMnO_4$ RG120120-1 Hydroxylamine RG120125-6

Balance(s) Used: 29

Pipet(s) Used: M57 M61/M1010

Note: Each page is copied as completed and included with the workorder/run documentation; reviewed subsequently

February 10, 2012

Ms. Kristie Warr
Weston Solutions, Inc.
5599 San Felipe, Ste. 700
Houston, TX 77056

Re:	ALS Workorder:	12-01-354
	Project Name:	Johnny M ORS
	Project Number:	TO 0035111101-120130-0002

Dear Ms. Warr:

Thirteen soil samples were received from Weston Solutions, Inc. on January 21, 2012. The samples were scheduled for the following analysis:

Metals pages 1-195

Contrary to the samples received previously, these contained notable moisture. Thus the samples were aliquotted as-received and corrected for %moisture.

The results for this analysis are contained in the enclosed report.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental
Lance Steere
Senior Project Manager

LRS/djf
Enclosure (s): Report

ALS is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

Accreditation Body	License or Certification Number
Washington	C1280
Utah	CO00078
Arizona	AZ0742
Alaska	UST-086
Alaska	CO00078
Florida	E87914
Missouri	175
North Dakota	R-057
New Jersey	CO003
Nevada	CO000782008A
California	06251CA
Kansas	E-10381
Maryland	285
Pennsylvania	68-03116
Texas	T104704241-09-1
Colorado	CO00078
Connecticut	PH-0232
Idaho	CO00078
Tennessee	2976
Kentucky	90137
L-A-B (DoD ELAP/ISO 17025)	L2257

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1201354
Client Name: Weston Solutions, Inc.
Client Project Name: Johnny M ORS
Client Project Number: TO0035111101-120130-0002
Client PO Number: 0077655

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
JM-54-31-120128	1201354-1		SOIL	28-Jan-12	17:12
JM-55-31-120128	1201354-2		SOIL	28-Jan-12	17:10
JM-65-31-120128	1201354-3		SOIL	28-Jan-12	17:02
JM-66-31-120128	1201354-4		SOIL	28-Jan-12	17:05
JM-70-31-120128	1201354-5		SOIL	28-Jan-12	17:00
JM-70-32-120128	1201354-6		SOIL	28-Jan-12	17:00
JM-73-31-120128	1201354-7		SOIL	28-Jan-12	16:57
JM-77-31-120128	1201354-8		SOIL	28-Jan-12	16:55
JM-82-31-120128	1201354-9		SOIL	28-Jan-12	16:45
JM-84-31-120128	1201354-10		SOIL	28-Jan-12	16:39
JM-88-31-120128	1201354-11		SOIL	28-Jan-12	16:34
JMBKGD-NE-31-120128	1201354-12		SOIL	28-Jan-12	9:41
JMBKGD-NW-31-120128	1201354-13		SOIL	28-Jan-12	9:10

1201354

USEPA

CHAIN OF CUSTODY RECORD

No: TO0035111101-120130-0002

DateShipped:
CarrierName:
AirbillNo:

Johnny M ORS
Contact Name: Kristie Warr
Contact Phone: 713-985-6600

Cooler #: 1
Lab: ALS Laboratory Group
Lab Phone: 970-490-1511

Lab #	Sample #	Analyses	Matrix	Collected	Sample Time	Container	Preservative	MS/ MSD	Samp_Concent ration
1	JM-54-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:12	Jar	Ice	N	251,115 cpm
2	JM-55-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:10	Jar	Ice	N	156,052 cpm
3	JM-65-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:02	Jar	Ice	N	342,018 cpm
4	JM-66-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:05	Jar	Ice	N	269,876 cpm
5	JM-70-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:00	Jar	Ice	N	381,092 cpm
6	JM-70-32-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:00	Jar	Ice	N	381,092 cpm
7	JM-73-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	16:57	Jar	Ice	N	209,993 cpm
8	JM-77-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	16:55	Jar	Ice	N	282,248 cpm
9	JM-82-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	16:45	Jar	Ice	N	228,461 cpm
10	JM-84-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	16:38	Jar	Ice	N	117,322 cpm
11	JM-88-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	16:34	Jar	Ice	N	265,129 cpm
12	JMBKGD-NE-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	09:41	Jar	Ice	N	9,938 cpm
13	JMBKGD-NW-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	09:10	Jar	Ice	N	13,502 cpm

Special Instructions: Standard TAT, SW846 6010/6020 SW846 7470/7471	**SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #**

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
13 / samples	[signature]	1/30/12	Emily McGahay	1/31/12	0925						

CONDITION OF SAMPLE UPON RECEIPT FORM

Client: Weston Solutions Workorder No: 1201354

Project Manager: LRS Initials: SMG Date: 1/31/12

1. Does this project require any **special handling** in addition to standard Paragon procedures?		YES	NO
2. Are custody **seals** on **shipping containers** intact?	NONE	YES	NO
3. Are Custody seals on **sample containers** intact?	NONE	YES	NO
4. Is there a **COC (Chain-of-Custody) present** or other representative documents?		YES	NO
5. Are the **COC and bottle labels complete and legible**?		YES	NO
6. Is the **COC in agreement** with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		YES	NO
7. Were **airbills / shipping documents** present and/or removable?	DROP OFF	YES	NO
8. Are all **aqueous samples requiring preservation preserved correctly? (excluding volatiles)**	N/A	YES	NO
9. Are all aqueous **non-preserved samples pH 4-9**?	N/A	YES	NO
10. Is there **sufficient sample** for the requested analyses?		YES	NO
11. Were all samples placed in the **proper containers** for the requested analyses?		YES	NO
12. Are all samples within **holding times** for the requested analyses?		YES	NO
13. Were all sample containers received **intact**? (not broken or leaking, etc.)		YES	NO
14. Are all samples requiring **no** headspace (**VOC, GRO, RSK/MEE, Rx CN/S, radon**) headspace free? **Size of bubble**: ____ < green pea ____ > green pea	N/A	YES	NO
15. Do perchlorate LCMS-MS samples **have** headspace? (at least 1/3 of container required)	N/A	YES	NO
16. Were samples checked for and free from the presence of **residual chlorine?** (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	N/A	YES	NO
17. Were the samples **shipped on ice**?		YES	NO
18. Were cooler temperatures measured at 0.1-6.0°C? **IR gun used*:** #2 #4	RAD ONLY	YES	NO

Cooler #:	1							
Temperature (°C):	6°							
No. of custody seals on cooler:	2							
DOT Survey/ Acceptance Information — External µR/hr reading:	22							
Background µR/hr reading:	13							

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES / NO / NA (If no, see Form 008.)

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

If applicable, was the client contacted? **YES / NO / NA** Contact: ______ Date/Time: ______

Project Manager Signature / Date: [signature] 2/1/12

*IR Gun #2: Oakton, SN 29922500201-0066 *IR Gun #4: Oakton, SN 2372220101-0002

Form 201r22.xls (6/1/09)

From: (903) 348-3917
Patrick Buster
Weston Solutions
825 E Santa Fe. Ave

Grants, NM 87020

Origin ID: GUPA

FedEx Express

E

J12101112190225

Ship Date: 30JAN12
ActWgt: 40.0 LB
CAD: 2557564/INET3250

Delivery Address Bar Code

SHIP TO: (970) 490-1511 BILL SENDER
Lance Steere
ALS Laboratory Group
225 Commerce Drive

Fort Collins, CO 80524

Ref # 20406.012.035.0694.01
Invoice # for approval
PO # expense reports
Dept #

2-22

TUE - 31 JAN A2
PRIORITY OVERNIGHT

TRK# **7931 6811 2930**
0201

80524
CO-US
DEN

XH FTCA

512G1/9F59/A278

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

ALS Environmental
Ft. Collins, Colorado

Invoice: 50626

Invoice Date: 2/10/2012
Terms: Net 30
Due Date: 3/11/2012
Project Manager: Lance R. Steere

BILL TO	CLIENT REFERENCE INFORMATION
Weston Solutions, Inc. 5599 San Felipe, Ste. 700 Houston, TX 77056 **Attn: Kristie Warr**	**Project ID:** TO0035111101-120130-0002 **Project Name:** Johnny M ORS **PO:** 0077655 **Cost Code:** NA

ItemCode:	Description:	Matrix:	Qty:	ItemPrice:	ExtPrice:
SDG 1201354					
Group 1					
	ICP Metals--TAL suite + Mo, Sn	SOIL	13	$85.00	$1,105.00
	ICPMS Metals--U	SOIL	13	$15.00	$195.00
				Group Total	**$1,300.00**
				SDG Total:	**$1,300.00**

Comments: NA

Client agrees to pay delinquency charges on past due accounts at a rate of 1 1/2% per month (18% Annual). Client also agrees to pay collection costs and attorney fees if placed for collection.

Calculated Invoice Total: $1,300.00

REMIT TO: ALS Group USA, Corp

LIMS Version: 6.560

Date Printed: Friday, February 10, 2012

ALS Group USA, Corp
Part of the **ALS Group**
P.O. Box 975444 Dallas, TX 75397
Phone (970) 490-1511 Fax (970) 490-1522 www.alsenviro.com
A Campbell Brothers Limited Company

If you wish to remit via credit card, please call us at (970) 490-1511

ALS Environmental

Metals
Case Narrative

Weston Solutions, Inc.
Johnny M ORS – TO0035111101-120130-002

Work Order Number: 1201354

1. This report consists of 13 soil samples.

2. The samples were received cool and intact by ALS on 1/31/12.

3. The samples were prepared and analyzed based on SW-846, 3rd Edition procedures.

   For analysis by Trace ICP and ICP-MS, the samples were digested following method 3050B and SOP 806 Rev. 15.

   For analysis by Cold Vapor AA (CVAA), the samples were digested following method 7471A and SOP 812 Rev. 15.

4. Analysis by Trace ICP followed method 6010B and SOP 834 Rev. 8.

   Analysis by ICP-MS followed method 6020A and SOP 827 Rev. 8.

   Analysis by CVAA followed method 7471A and SOP 812 Rev. 15.

5. All standards and solutions are NIST traceable and were used within their recommended shelf life.

6. The samples were prepared and analyzed within the established hold times.

All in house quality control procedures were followed, as described below.

7. General quality control procedures.
   - A preparation (method) blank and laboratory control sample were digested and analyzed with the samples in each digestion batch.

- The preparation (method) blank associated with each digestion batch was below the practical quantitation limit for the requested analytes, with the exception of uranium in the method blank associated with the ICP-MS batch. The associated samples contained more than ten times the concentration of uranium in the method blank, so no further action was taken.
- All laboratory control sample criteria were met.
- All initial and continuing calibration blanks were below the practical quantitation limit for the requested analytes, with the exception of CCB6 for aluminum. The samples bracketed by this CCB contained more than ten times the concentration of aluminum that was detected in the CCB.
- All initial and continuing calibration verifications were within the acceptance criteria for the requested analytes.
- The high standard readbacks associated with Method 6010B were within acceptance criteria.
- The interference check samples associated with Method 6010B were within acceptance criteria.
- The interference check samples associated with Method 6020A were analyzed.

8. Matrix specific quality control procedures.

Sample 1201354-1 was designated as the quality control sample for the Trace ICP and ICP-MS analyses. Sample 1201354-13 was designated as the quality control sample for the mercury analysis.

Similarity of matrix and therefore relevance of the QC results should not be automatically inferred for any sample other than the native sample selected for QC.

- A matrix spike and matrix spike duplicate were digested and analyzed with each batch. All acceptance criteria for accuracy were met, with the following exceptions:

Analyte	Sample ID
Antimony	1201354-1MS & MSD
Barium	1201354-1MS & MSD
Calcium	1201354-1MS & MSD
Vanadium	1201354-1MS & MSD
Zinc	1201354-1MS & MSD

The native sample results are flagged for matrix spike failure and an analytical post spike was performed. The results of the spike were acceptable indicating that the matrix was not significantly affecting quantitation of these analytes.

- Matrix spike recoveries could not be evaluated for the following analytes:

Analyte	Sample ID
Aluminum	1201354-1
Iron	1201354-1
Uranium	1201354-1

  The concentrations of these analytes in the native sample were greater than four times the concentration of matrix spike added during the digestion. When sample concentration is that much greater than the spike added, spike recoveries may not be accurate. The laboratory control sample indicates that the digestion and analysis were in control.

- A sample duplicate and matrix spike duplicate were digested and analyzed with each batch. All acceptance criteria for precision were met, with the following exceptions:

Analyte	Sample ID
Barium	1201354-1D
Potassium	1201354-1D
Selenium	1201354-1D
Sodium	1201354-1D
Zinc	1201354-1D

  The native sample results are flagged for duplicate failure.

- A serial dilution was analyzed with each ICP batch. All acceptance criteria were met, with the following exceptions:

Analyte	Sample ID
Barium	1201354-1L
Potassium	1201354-1L
Zinc	1201354-1L

  The native sample results are flagged for serial dilution failure.

9. Sample 1201354-13 required dilutions to bring iron into the analytical range of the Trace ICP. Accurate quantitation of iron is necessary to correct for spectral interferences on lead, selenium, thallium, and vanadium. The lead, selenium, thallium, and vanadium results were determined from the diluted sample.

   It is a standard practice that samples for ICP-MS are analyzed at a dilution. Samples 1201354-2, -3, -5, -6, -7, -8, -9, and -11 required further dilutions to bring uranium into the analytical range of the ICP-MS.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Jill Latelle 2/8/12

Jill Latelle
Inorganics Primary Data Reviewer

Date

2-8-12

Inorganics Final Data Reviewer

Date

Inorganic Data Reporting Qualifiers

The following qualifiers are used by the laboratory when reporting results of inorganic analyses.

- Result qualifier -- If the analyte was analyzed for but not detected a "U" is entered.

- QC qualifier -- Specified entries and their meanings are as follows:

  E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.

  M - Duplicate injection precision was not met.

  N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.

  Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.

  * - Duplicate analysis (relative percent difference) not within control limits.

  S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Chain of Custody

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1201354
Client Name: Weston Solutions, Inc.
Client Project Name: Johnny M ORS
Client Project Number: TO0035111101-120130-0002
Client PO Number: 0077655

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
JM-54-31-120128	1201354-1		SOIL	28-Jan-12	17:12
JM-55-31-120128	1201354-2		SOIL	28-Jan-12	17:10
JM-65-31-120128	1201354-3		SOIL	28-Jan-12	17:02
JM-66-31-120128	1201354-4		SOIL	28-Jan-12	17:05
JM-70-31-120128	1201354-5		SOIL	28-Jan-12	17:00
JM-70-32-120128	1201354-6		SOIL	28-Jan-12	17:00
JM-73-31-120128	1201354-7		SOIL	28-Jan-12	16:57
JM-77-31-120128	1201354-8		SOIL	28-Jan-12	16:55
JM-82-31-120128	1201354-9		SOIL	28-Jan-12	16:45
JM-84-31-120128	1201354-10		SOIL	28-Jan-12	16:39
JM-88-31-120128	1201354-11		SOIL	28-Jan-12	16:34
JMBKGD-NE-31-120128	1201354-12		SOIL	28-Jan-12	9:41
JMBKGD-NW-31-120128	1201354-13		SOIL	28-Jan-12	9:10

1201354

USEPA

DateShipped:
CarrierName:
AirbillNo:

CHAIN OF CUSTODY RECORD

Johnny M ORS
Contact Name: Kristie Warr
Contact Phone: 713-985-6600

No: TO0035111101-120130-0002

Cooler #: 1
Lab: ALS Laboratory Group
Lab Phone: 970-490-1511

Lab #	Sample #	Analyses	Matrix	Collected	Sample Time	Container	Preservative	MS/ MSD	Samp_Concentration
1	JM-54-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:12	Jar	Ice	N	251,115 cpm
2	JM-55-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:10	Jar	Ice	N	156,052 cpm
3	JM-65-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:02	Jar	Ice	N	342,018 cpm
4	JM-66-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:05	Jar	Ice	N	269,876 cpm
5	JM-70-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:00	Jar	Ice	N	381,092 cpm
6	JM-70-32-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	17:00	Jar	Ice	N	381,092 cpm
7	JM-73-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	16:57	Jar	Ice	N	209,993 cpm
8	JM-77-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	16:55	Jar	Ice	N	282,248 cpm
9	JM-82-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	16:45	Jar	Ice	N	228,461 cpm
10	JM-84-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	16:38	Jar	Ice	N	117,322 cpm
11	JM-88-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	16:34	Jar	Ice	N	265,129 cpm
12	JMBKGD-NE-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	09:41	Jar	Ice	N	9,938 cpm
13	JMBKGD-NW-31-120128	Metals, Mercury, Molybdenum, Tin, Total Uranium	Soil	1/28/2012	09:10	Jar	Ice	N	13,502 cpm

Special Instructions: Standard TAT, SW846 6010/6020
SW846 7470/7471

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
13 samples	[signature]	1/31/12	Emily McGahany	1/31/12	0925						

ALS

CONDITION OF SAMPLE UPON RECEIPT FORM

Client: Weston Solutions Workorder No: 1201354

Project Manager: LRS Initials: SMG Date: 1/31/12

1. Does this project require any **special handling** in addition to standard Paragon procedures?		YES	NO
2. Are custody **seals** on **shipping containers** intact?	NONE	YES	NO
3. Are Custody seals on **sample containers** intact?	NONE	YES	NO
4. Is there a **COC (Chain-of-Custody) present** or other representative documents?		YES	NO
5. Are the **COC and bottle labels complete and legible**?		YES	NO
6. Is the **COC in agreement** with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		YES	NO
7. Were **airbills / shipping documents** present and/or removable?	DROP OFF	YES	NO
8. Are all **aqueous samples requiring preservation preserved correctly? (excluding volatiles)**	N/A	YES	NO
9. Are all aqueous **non-preserved samples pH 4-9**?	N/A	YES	NO
10. Is there **sufficient sample** for the requested analyses?		YES	NO
11. Were all samples placed in the **proper containers** for the requested analyses?		YES	NO
12. Are all samples within **holding times** for the requested analyses?		YES	NO
13. Were all sample containers received **intact**? (not broken or leaking, etc.)		YES	NO
14. Are all samples requiring **no** headspace (**VOC, GRO, RSK/MEE, Rx CN/S, radon**) headspace free? **Size of bubble**: ____ < green pea ____ > green pea	N/A	YES	NO
15. Do perchlorate LCMS-MS samples **have** headspace? (at least 1/3 of container required)	N/A	YES	NO
16. Were samples checked for and free from the presence of **residual chlorine?** (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	N/A	YES	NO
17. Were the samples **shipped on ice**?		YES	NO
18. Were cooler temperatures measured at 0.1-6.0°C? **IR gun used***: **#2** **#4**	RAD ONLY	YES	NO

Cooler #:	1							
Temperature (°C):	6°							
No. of custody seals on cooler:	2							
External µR/hr reading:	22							
Background µR/hr reading:	13							

DOT Survey/ Acceptance Information

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES / NO / NA (If no, see Form 008.)

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

If applicable, was the client contacted? **YES / NO / NA** Contact: ______ Date/Time: ______

Project Manager Signature / Date: [signature] 2/1/12

*IR Gun #2: Oakton, SN 29922500201-0066 *IR Gun #4: Oakton, SN 2372220101-0002

Form 201r22.xls (6/1/09)

From: (903) 348-3917
Patrick Buster
Weston Solutions
825 E Santa Fe. Ave

Grants, NM 87020

Origin ID: GUPA

FedEx Express

E

J12101112190225

Ship Date: 30JAN12
ActWgt: 40.0 LB
CAD: 2557564/INET3250

Delivery Address Bar Code

SHIP TO: (970) 490-1511 BILL SENDER

Lance Steere
ALS Laboratory Group
225 Commerce Drive

Fort Collins, CO 80524

Ref # 20406.012.035.0694.01
Invoice # for approval
PO # expense reports
Dept #

22

TUE - 31 JAN A2
PRIORITY OVERNIGHT

TRK# 7931 6811 2930
0201

80524
CO-US
DEN

XH FTCA

512G1/9F59/A278

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Sample Results

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-54-31-120128
Lab ID: 1201354-1

Sample Matrix: SOIL
% Moisture: 12.5
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.027 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	6600	22		
7440-36-0	ANTIMONY	1	2.2	2.2	U	N
7440-38-2	ARSENIC	1	6.5	1.1		
7440-39-3	BARIUM	1	330	11		*EN
7440-41-7	BERYLLIUM	1	0.56	0.56	U	
7440-43-9	CADMIUM	1	0.56	0.56	U	
7440-70-2	CALCIUM	1	9600	110		N
7440-47-3	CHROMIUM	1	5	1.1		
7440-48-4	COBALT	1	3.9	1.1		
7440-50-8	COPPER	1	7.4	1.1		
7439-89-6	IRON	1	13000	11		
7439-92-1	LEAD	1	16	0.33		
7439-95-4	MAGNESIUM	1	2500	110		
7439-96-5	MANGANESE	1	180	1.1		
7439-98-7	MOLYBDENUM	1	3.9	1.1		
7440-02-0	NICKEL	1	4.4	2.2		
7440-09-7	POTASSIUM	1	1400	110		*E
7782-49-2	SELENIUM	1	11	0.56		*
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	810	110		*
7440-28-0	THALLIUM	1	2.1	1.1		
7440-31-5	TIN	1	5.6	5.6	U	
7440-62-2	VANADIUM	1	90	1.1		N
7440-66-6	ZINC	1	120	2.2		*EN

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-55-31-120128
Lab ID: 1201354-2

Sample Matrix: SOIL
% Moisture: 7.4
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.041 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4300	21		
7440-36-0	ANTIMONY	1	2.1	2.1	U	
7440-38-2	ARSENIC	1	9.7	1		
7440-39-3	BARIUM	1	93	10		
7440-41-7	BERYLLIUM	1	0.52	0.52	U	
7440-43-9	CADMIUM	1	0.52	0.52	U	
7440-70-2	CALCIUM	1	11000	100		
7440-47-3	CHROMIUM	1	2.9	1		
7440-48-4	COBALT	1	2.7	1		
7440-50-8	COPPER	1	5	1		
7439-89-6	IRON	1	9700	10		
7439-92-1	LEAD	1	12	0.31		
7439-95-4	MAGNESIUM	1	1800	100		
7439-96-5	MANGANESE	1	200	1		
7439-98-7	MOLYBDENUM	1	7.3	1		
7440-02-0	NICKEL	1	2.6	2.1		
7440-09-7	POTASSIUM	1	620	100		
7782-49-2	SELENIUM	1	25	0.52		
7440-22-4	SILVER	1	1	1	U	
7440-23-5	SODIUM	1	100	100	U	
7440-28-0	THALLIUM	1	1.6	1		
7440-31-5	TIN	1	5.2	5.2	U	
7440-62-2	VANADIUM	1	99	1		
7440-66-6	ZINC	1	18	2.1		

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-65-31-120128	**Sample Matrix:** SOIL	**Prep Batch:** IP120202-2	**Sample Aliquot:** 1.001 G
Lab ID: 1201354-3	**% Moisture:** 12.7	**QCBatchID:** IP120202-2-1	**Final Volume:** 100 ML
	Date Collected: 28-Jan-12	**Run ID:** IT120202-2A1	**Result Units:** MG/KG
	Date Extracted: 02-Feb-12	**Cleanup:** NONE	**Clean DF:** 1
	Date Analyzed: 02-Feb-12	**Basis:** Dry Weight	
	Prep Method: SW3050 Rev B	**File Name:** 120202A.	

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4300	23		
7440-36-0	ANTIMONY	1	2.3	2.3	U	
7440-38-2	ARSENIC	1	12	1.1		
7440-39-3	BARIUM	1	120	11		
7440-41-7	BERYLLIUM	1	0.57	0.57	U	
7440-43-9	CADMIUM	1	0.57	0.57	U	
7440-70-2	CALCIUM	1	11000	110		
7440-47-3	CHROMIUM	1	2.8	1.1		
7440-48-4	COBALT	1	2.3	1.1		
7440-50-8	COPPER	1	6.9	1.1		
7439-89-6	IRON	1	7500	11		
7439-92-1	LEAD	1	20	0.34		
7439-95-4	MAGNESIUM	1	1800	110		
7439-96-5	MANGANESE	1	160	1.1		
7439-98-7	MOLYBDENUM	1	13	1.1		
7440-02-0	NICKEL	1	2.3	2.3	U	
7440-09-7	POTASSIUM	1	640	110		
7782-49-2	SELENIUM	1	59	0.57		
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	110	110	U	
7440-28-0	THALLIUM	1	1.1	1.1	U	
7440-31-5	TIN	1	5.7	5.7	U	
7440-62-2	VANADIUM	1	190	1.1		
7440-66-6	ZINC	1	14	2.3		

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-66-31-120128
Lab ID: 1201354-4

Sample Matrix: SOIL
% Moisture: 15.6
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.041 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	3300	23		
7440-36-0	ANTIMONY	1	2.3	2.3	U	
7440-38-2	ARSENIC	1	4.3	1.1		
7440-39-3	BARIUM	1	66	11		
7440-41-7	BERYLLIUM	1	0.57	0.57	U	
7440-43-9	CADMIUM	1	0.57	0.57	U	
7440-70-2	CALCIUM	1	13000	110		
7440-47-3	CHROMIUM	1	2.5	1.1		
7440-48-4	COBALT	1	3.7	1.1		
7440-50-8	COPPER	1	3.2	1.1		
7439-89-6	IRON	1	6600	11		
7439-92-1	LEAD	1	10	0.34		
7439-95-4	MAGNESIUM	1	1300	110		
7439-96-5	MANGANESE	1	170	1.1		
7439-98-7	MOLYBDENUM	1	3.7	1.1		
7440-02-0	NICKEL	1	3.1	2.3		
7440-09-7	POTASSIUM	1	560	110		
7782-49-2	SELENIUM	1	15	0.57		
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	110	110	U	
7440-28-0	THALLIUM	1	1.1	1.1	U	
7440-31-5	TIN	1	5.7	5.7	U	
7440-62-2	VANADIUM	1	75	1.1		
7440-66-6	ZINC	1	16	2.3		

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-70-31-120128
Lab ID: 1201354-5

Sample Matrix: SOIL
% Moisture: 14.2
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.034 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4100	23		
7440-36-0	ANTIMONY	1	2.3	2.3	U	
7440-38-2	ARSENIC	1	14	1.1		
7440-39-3	BARIUM	1	170	11		
7440-41-7	BERYLLIUM	1	0.56	0.56	U	
7440-43-9	CADMIUM	1	0.56	0.56	U	
7440-70-2	CALCIUM	1	9700	110		
7440-47-3	CHROMIUM	1	3.6	1.1		
7440-48-4	COBALT	1	2.9	1.1		
7440-50-8	COPPER	1	5.3	1.1		
7439-89-6	IRON	1	11000	11		
7439-92-1	LEAD	1	16	0.34		
7439-95-4	MAGNESIUM	1	1700	110		
7439-96-5	MANGANESE	1	150	1.1		
7439-98-7	MOLYBDENUM	1	11	1.1		
7440-02-0	NICKEL	1	3.1	2.3		
7440-09-7	POTASSIUM	1	670	110		
7782-49-2	SELENIUM	1	43	0.56		
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	110	110	U	
7440-28-0	THALLIUM	1	1.1	1.1	U	
7440-31-5	TIN	1	5.6	5.6	U	
7440-62-2	VANADIUM	1	130	1.1		
7440-66-6	ZINC	1	18	2.3		

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-70-32-120128
Lab ID: 1201354-6

Sample Matrix: SOIL
% Moisture: 14.2
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.004 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4000	23		
7440-36-0	ANTIMONY	1	2.3	2.3	U	
7440-38-2	ARSENIC	1	6.1	1.2		
7440-39-3	BARIUM	1	170	12		
7440-41-7	BERYLLIUM	1	0.58	0.58	U	
7440-43-9	CADMIUM	1	0.58	0.58	U	
7440-70-2	CALCIUM	1	14000	120		
7440-47-3	CHROMIUM	1	3	1.2		
7440-48-4	COBALT	1	3.1	1.2		
7440-50-8	COPPER	1	4.6	1.2		
7439-89-6	IRON	1	8000	12		
7439-92-1	LEAD	1	15	0.35		
7439-95-4	MAGNESIUM	1	1700	120		
7439-96-5	MANGANESE	1	160	1.2		
7439-98-7	MOLYBDENUM	1	9.9	1.2		
7440-02-0	NICKEL	1	3.2	2.3		
7440-09-7	POTASSIUM	1	650	120		
7782-49-2	SELENIUM	1	45	0.58		
7440-22-4	SILVER	1	1.2	1.2	U	
7440-23-5	SODIUM	1	130	120		
7440-28-0	THALLIUM	1	1.2	1.2	U	
7440-31-5	TIN	1	5.8	5.8	U	
7440-62-2	VANADIUM	1	120	1.2		
7440-66-6	ZINC	1	18	2.3		

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-73-31-120128
Lab ID: 1201354-7

Sample Matrix: SOIL
% Moisture: 11.6
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.031 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4400	22		
7440-36-0	ANTIMONY	1	2.2	2.2	U	
7440-38-2	ARSENIC	1	8.5	1.1		
7440-39-3	BARIUM	1	130	11		
7440-41-7	BERYLLIUM	1	0.55	0.55	U	
7440-43-9	CADMIUM	1	0.55	0.55	U	
7440-70-2	CALCIUM	1	33000	110		
7440-47-3	CHROMIUM	1	3.7	1.1		
7440-48-4	COBALT	1	3.3	1.1		
7440-50-8	COPPER	1	5.3	1.1		
7439-89-6	IRON	1	9100	11		
7439-92-1	LEAD	1	14	0.33		
7439-95-4	MAGNESIUM	1	1900	110		
7439-96-5	MANGANESE	1	200	1.1		
7439-98-7	MOLYBDENUM	1	4.7	1.1		
7440-02-0	NICKEL	1	4.8	2.2		
7440-09-7	POTASSIUM	1	820	110		
7782-49-2	SELENIUM	1	33	0.55		
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	110	110	U	
7440-28-0	THALLIUM	1	1.3	1.1		
7440-31-5	TIN	1	5.5	5.5	U	
7440-62-2	VANADIUM	1	93	1.1		
7440-66-6	ZINC	1	22	2.2		

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-77-31-120128
Lab ID: 1201354-8

Sample Matrix: SOIL
% Moisture: 21.6
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.012 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	6500	25		
7440-36-0	ANTIMONY	1	2.5	2.5	U	
7440-38-2	ARSENIC	1	8.7	1.3		
7440-39-3	BARIUM	1	91	13		
7440-41-7	BERYLLIUM	1	0.63	0.63	U	
7440-43-9	CADMIUM	1	0.63	0.63	U	
7440-70-2	CALCIUM	1	10000	130		
7440-47-3	CHROMIUM	1	5.9	1.3		
7440-48-4	COBALT	1	5.9	1.3		
7440-50-8	COPPER	1	9.9	1.3		
7439-89-6	IRON	1	14000	13		
7439-92-1	LEAD	1	17	0.38		
7439-95-4	MAGNESIUM	1	2500	130		
7439-96-5	MANGANESE	1	200	1.3		
7439-98-7	MOLYBDENUM	1	13	1.3		
7440-02-0	NICKEL	1	7	2.5		
7440-09-7	POTASSIUM	1	1400	130		
7782-49-2	SELENIUM	1	18	0.63		
7440-22-4	SILVER	1	1.3	1.3	U	
7440-23-5	SODIUM	1	130	130		
7440-28-0	THALLIUM	1	2.1	1.3		
7440-31-5	TIN	1	6.3	6.3	U	
7440-62-2	VANADIUM	1	68	1.3		
7440-66-6	ZINC	1	36	2.5		

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-82-31-120128
Lab ID: 1201354-9

Sample Matrix: SOIL
% Moisture: 9.2
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.031 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4700	21		
7440-36-0	ANTIMONY	1	2.1	2.1	U	
7440-38-2	ARSENIC	1	10	1.1		
7440-39-3	BARIUM	1	78	11		
7440-41-7	BERYLLIUM	1	0.53	0.53	U	
7440-43-9	CADMIUM	1	0.53	0.53	U	
7440-70-2	CALCIUM	1	16000	110		
7440-47-3	CHROMIUM	1	3.8	1.1		
7440-48-4	COBALT	1	3.2	1.1		
7440-50-8	COPPER	1	4.9	1.1		
7439-89-6	IRON	1	12000	11		
7439-92-1	LEAD	1	13	0.32		
7439-95-4	MAGNESIUM	1	2100	110		
7439-96-5	MANGANESE	1	200	1.1		
7439-98-7	MOLYBDENUM	1	7.6	1.1		
7440-02-0	NICKEL	1	4	2.1		
7440-09-7	POTASSIUM	1	820	110		
7782-49-2	SELENIUM	1	26	0.53		
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	110	110	U	
7440-28-0	THALLIUM	1	1.1	1.1	U	
7440-31-5	TIN	1	5.3	5.3	U	
7440-62-2	VANADIUM	1	160	1.1		
7440-66-6	ZINC	1	24	2.1		

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B
Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-84-31-120128	**Sample Matrix:** SOIL	**Prep Batch:** IP120202-2	**Sample Aliquot:** 1.022 G
Lab ID: 1201354-10	**% Moisture:** 27.2	**QCBatchID:** IP120202-2-1	**Final Volume:** 100 ML
	Date Collected: 28-Jan-12	**Run ID:** IT120202-2A1	**Result Units:** MG/KG
	Date Extracted: 02-Feb-12	**Cleanup:** NONE	**Clean DF:** 1
	Date Analyzed: 02-Feb-12	**Basis:** Dry Weight	
	Prep Method: SW3050 Rev B	**File Name:** 120202A.	

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	9000	27		
7440-36-0	ANTIMONY	1	2.7	2.7	U	
7440-38-2	ARSENIC	1	6.5	1.3		
7440-39-3	BARIUM	1	100	13		
7440-41-7	BERYLLIUM	1	0.77	0.67		
7440-43-9	CADMIUM	1	0.67	0.67	U	
7440-70-2	CALCIUM	1	18000	130		
7440-47-3	CHROMIUM	1	8.3	1.3		
7440-48-4	COBALT	1	7.9	1.3		
7440-50-8	COPPER	1	15	1.3		
7439-89-6	IRON	1	19000	13		
7439-92-1	LEAD	1	17	0.4		
7439-95-4	MAGNESIUM	1	3000	130		
7439-96-5	MANGANESE	1	270	1.3		
7439-98-7	MOLYBDENUM	1	1.3	1.3	U	
7440-02-0	NICKEL	1	11	2.7		
7440-09-7	POTASSIUM	1	2000	130		
7782-49-2	SELENIUM	1	1.7	0.67		
7440-22-4	SILVER	1	1.3	1.3	U	
7440-23-5	SODIUM	1	130	130	U	
7440-28-0	THALLIUM	1	2.2	1.3		
7440-31-5	TIN	1	6.7	6.7	U	
7440-62-2	VANADIUM	1	29	1.3		
7440-66-6	ZINC	1	50	2.7		

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-88-31-120128
Lab ID: 1201354-11

Sample Matrix: SOIL
% Moisture: 15.7
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.007 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	5600	24		
7440-36-0	ANTIMONY	1	2.4	2.4	U	
7440-38-2	ARSENIC	1	20	1.2		
7440-39-3	BARIUM	1	87	12		
7440-41-7	BERYLLIUM	1	0.59	0.59	U	
7440-43-9	CADMIUM	1	0.59	0.59	U	
7440-70-2	CALCIUM	1	8500	120		
7440-47-3	CHROMIUM	1	4	1.2		
7440-48-4	COBALT	1	4.5	1.2		
7440-50-8	COPPER	1	8.6	1.2		
7439-89-6	IRON	1	13000	12		
7439-92-1	LEAD	1	19	0.35		
7439-95-4	MAGNESIUM	1	2300	120		
7439-96-5	MANGANESE	1	230	1.2		
7439-98-7	MOLYBDENUM	1	22	1.2		
7440-02-0	NICKEL	1	5.1	2.4		
7440-09-7	POTASSIUM	1	1100	120		
7782-49-2	SELENIUM	1	76	0.59		
7440-22-4	SILVER	1	1.2	1.2	U	
7440-23-5	SODIUM	1	120	120	U	
7440-28-0	THALLIUM	1	2.9	1.2		
7440-31-5	TIN	1	5.9	5.9	U	
7440-62-2	VANADIUM	1	160	1.2		
7440-66-6	ZINC	1	31	2.4		

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JMBKGD-NE-31-120128
Lab ID: 1201354-12

Sample Matrix: SOIL
% Moisture: 11.2
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.033 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	3000	22		
7440-36-0	ANTIMONY	1	2.2	2.2	U	
7440-38-2	ARSENIC	1	1.8	1.1		
7440-39-3	BARIUM	1	51	11		
7440-41-7	BERYLLIUM	1	0.54	0.54	U	
7440-43-9	CADMIUM	1	0.54	0.54	U	
7440-70-2	CALCIUM	1	1100	110		
7440-47-3	CHROMIUM	1	3.5	1.1		
7440-48-4	COBALT	1	2.2	1.1		
7440-50-8	COPPER	1	3.5	1.1		
7439-89-6	IRON	1	7800	11		
7439-92-1	LEAD	1	6.5	0.33		
7439-95-4	MAGNESIUM	1	970	110		
7439-96-5	MANGANESE	1	130	1.1		
7439-98-7	MOLYBDENUM	1	1.1	1.1	U	
7440-02-0	NICKEL	1	4	2.2		
7440-09-7	POTASSIUM	1	770	110		
7782-49-2	SELENIUM	1	0.81	0.54		
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	110	110	U	
7440-28-0	THALLIUM	1	1.7	1.1		
7440-31-5	TIN	1	5.4	5.4	U	
7440-62-2	VANADIUM	1	8.9	1.1		
7440-66-6	ZINC	1	19	2.2		

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JMBKGD-NW-31-120128
Lab ID: 1201354-13

Sample Matrix: SOIL
% Moisture: 7.4
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.014 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	6100	21		
7440-36-0	ANTIMONY	1	2.1	2.1	U	
7440-38-2	ARSENIC	1	7	1.1		
7440-39-3	BARIUM	1	100	11		
7440-41-7	BERYLLIUM	1	0.64	0.53		
7440-43-9	CADMIUM	1	0.53	0.53	U	
7440-70-2	CALCIUM	1	4600	110		
7440-47-3	CHROMIUM	1	7.4	1.1		
7440-48-4	COBALT	1	7	1.1		
7440-50-8	COPPER	1	9.9	1.1		
7439-89-6	IRON	5	27000	53		
7439-92-1	LEAD	5	11	1.6		
7439-95-4	MAGNESIUM	1	2800	110		
7439-96-5	MANGANESE	1	270	1.1		
7439-98-7	MOLYBDENUM	1	1.1	1.1	U	
7440-02-0	NICKEL	1	7.7	2.1		
7440-09-7	POTASSIUM	1	2300	110		
7782-49-2	SELENIUM	5	2.7	2.7	U	
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	130	110		
7440-28-0	THALLIUM	5	5.3	5.3	U	
7440-31-5	TIN	1	5.3	5.3	U	
7440-62-2	VANADIUM	5	19	5.3		
7440-66-6	ZINC	1	40	2.1		

Data Package ID: *it1201354-1*

Total URANIUM

Method SW6020 Revision A

Sample Results

Lab Name: ALS Environmental -- FC
Client Name: Weston Solutions, Inc.
Client Project ID: Johnny M ORS TO0035111101-120130-0002
Work Order Number: 1201354 **Final Volume:** 100 ml
Reporting Basis: Dry Weight **Matrix:** SOIL
Prep Method: SW3050B **Result Units:** UG/KG

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag	Sample Aliquot
JM-54-31-120128	1201354-1	01/28/2012	02/02/2012	02/03/2012	12.5	10	38000	11		1.027 g
JM-55-31-120128	1201354-2	01/28/2012	02/02/2012	02/03/2012	7.4	100	140000	100		1.041 g
JM-65-31-120128	1201354-3	01/28/2012	02/02/2012	02/03/2012	12.7	100	440000	110		1.001 g
JM-66-31-120128	1201354-4	01/28/2012	02/02/2012	02/03/2012	15.6	10	43000	11		1.041 g
JM-70-31-120128	1201354-5	01/28/2012	02/02/2012	02/03/2012	14.2	100	250000	110		1.034 g
JM-70-32-120128	1201354-6	01/28/2012	02/02/2012	02/03/2012	14.2	100	290000	120		1.004 g
JM-73-31-120128	1201354-7	01/28/2012	02/02/2012	02/03/2012	11.6	100	140000	110		1.031 g
JM-77-31-120128	1201354-8	01/28/2012	02/02/2012	02/03/2012	21.6	100	330000	130		1.012 g
JM-82-31-120128	1201354-9	01/28/2012	02/02/2012	02/03/2012	9.2	100	150000	110		1.031 g
JM-84-31-120128	1201354-10	01/28/2012	02/02/2012	02/03/2012	27.2	10	32000	13		1.022 g
JM-88-31-120128	1201354-11	01/28/2012	02/02/2012	02/03/2012	15.7	100	330000	120		1.007 g
JMBKGD-NE-31-120128	1201354-12	01/28/2012	02/02/2012	02/03/2012	11.2	10	2100	11		1.033 g
JMBKGD-NW-31-120128	1201354-13	01/28/2012	02/02/2012	02/03/2012	7.4	10	1200	11		1.014 g

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *im1201354-1*

Total MERCURY

Method SW7471 Revision A

Sample Results

Lab Name: ALS Environmental -- FC
Client Name: Weston Solutions, Inc.
Client Project ID: Johnny M ORS TO0035111101-120130-0002
Work Order Number: 1201354 **Final Volume:** 100 g
Reporting Basis: Dry Weight **Matrix:** SOIL
Prep Method: METHOD **Result Units:** MG/KG

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag	Sample Aliquot
JM-54-31-120128	1201354-1	01/28/2012	02/06/2012	02/07/2012	12.5	1	0.037	0.037	U	0.614 g
JM-55-31-120128	1201354-2	01/28/2012	02/06/2012	02/07/2012	7.4	1	0.035	0.035	U	0.616 g
JM-65-31-120128	1201354-3	01/28/2012	02/06/2012	02/07/2012	12.7	1	0.053	0.038		0.603 g
JM-66-31-120128	1201354-4	01/28/2012	02/06/2012	02/07/2012	15.6	1	0.039	0.039	U	0.613 g
JM-70-31-120128	1201354-5	01/28/2012	02/06/2012	02/07/2012	14.2	1	0.039	0.039	U	0.605 g
JM-70-32-120128	1201354-6	01/28/2012	02/06/2012	02/07/2012	14.2	1	0.039	0.039	U	0.6 g
JM-73-31-120128	1201354-7	01/28/2012	02/06/2012	02/07/2012	11.6	1	0.037	0.037	U	0.615 g
JM-77-31-120128	1201354-8	01/28/2012	02/06/2012	02/07/2012	21.6	1	0.046	0.042		0.604 g
JM-82-31-120128	1201354-9	01/28/2012	02/06/2012	02/07/2012	9.2	1	0.036	0.036	U	0.608 g
JM-84-31-120128	1201354-10	01/28/2012	02/06/2012	02/07/2012	27.2	1	0.045	0.045	U	0.61 g
JM-88-31-120128	1201354-11	01/28/2012	02/06/2012	02/07/2012	15.7	1	0.072	0.039		0.602 g
JMBKGD-NE-31-120128	1201354-12	01/28/2012	02/06/2012	02/07/2012	11.2	1	0.037	0.037	U	0.614 g
JMBKGD-NW-31-120128	1201354-13	01/28/2012	02/06/2012	02/07/2012	7.4	1	0.036	0.036	U	0.608 g

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *hg1201354-1*

Summary Report Forms

ICP Metals

Method SW6010B
Method Blank

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: IP120202-2MB

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: N/A
File Name: 120202A.

Sample Aliquot: 1 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	20	20	U	
7440-36-0	ANTIMONY	1	2	2	U	
7440-38-2	ARSENIC	1	1	1	U	
7440-39-3	BARIUM	1	10	10	U	
7440-41-7	BERYLLIUM	1	0.5	0.5	U	
7440-43-9	CADMIUM	1	0.5	0.5	U	
7440-70-2	CALCIUM	1	100	100	U	
7440-47-3	CHROMIUM	1	1	1	U	
7440-48-4	COBALT	1	1	1	U	
7440-50-8	COPPER	1	1	1	U	
7439-89-6	IRON	1	10	10	U	
7439-92-1	LEAD	1	0.3	0.3	U	
7439-95-4	MAGNESIUM	1	100	100	U	
7439-96-5	MANGANESE	1	1	1	U	
7439-98-7	MOLYBDENUM	1	1	1	U	
7440-02-0	NICKEL	1	2	2	U	
7440-09-7	POTASSIUM	1	100	100	U	
7782-49-2	SELENIUM	1	0.5	0.5	U	
7440-22-4	SILVER	1	1	1	U	
7440-23-5	SODIUM	1	100	100	U	
7440-28-0	THALLIUM	1	1	1	U	
7440-31-5	TIN	1	5	5	U	
7440-62-2	VANADIUM	1	1	1	U	
7440-66-6	ZINC	1	2	2	U	

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010B

Laboratory Control Sample

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: IP120202-2LCS

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02/02/2012
Date Analyzed: 02/02/2012
Prep Method: SW3050B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: N/A
File Name: 120202A.

Sample Aliquot: 1 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7429-90-5	ALUMINUM	200	218	20		109	80 - 120%
7440-36-0	ANTIMONY	50	45.6	2		91	80 - 120%
7440-38-2	ARSENIC	200	190	1		95	80 - 120%
7440-39-3	BARIUM	200	208	10		104	80 - 120%
7440-41-7	BERYLLIUM	5	4.74	0.5		95	80 - 120%
7440-43-9	CADMIUM	5	4.97	0.5		99	80 - 120%
7440-70-2	CALCIUM	4000	3720	100		93	80 - 120%
7440-47-3	CHROMIUM	20	19.5	1		97	80 - 120%
7440-48-4	COBALT	50	47.6	1		95	80 - 120%
7440-50-8	COPPER	25	25.7	1		103	80 - 120%
7439-89-6	IRON	100	104	10		104	80 - 120%
7439-92-1	LEAD	50	48.5	0.3		97	80 - 120%
7439-95-4	MAGNESIUM	4000	3620	100		90	80 - 120%
7439-96-5	MANGANESE	50	49.5	1		99	80 - 120%
7439-98-7	MOLYBDENUM	100	96.3	1		96	80 - 120%
7440-02-0	NICKEL	50	48.2	2		96	80 - 120%
7440-09-7	POTASSIUM	4000	3760	100		94	80 - 120%
7782-49-2	SELENIUM	200	179	0.5		90	80 - 120%
7440-22-4	SILVER	10	9.34	1		93	80 - 120%
7440-23-5	SODIUM	4000	3590	100		90	80 - 120%
7440-28-0	THALLIUM	200	198	1		99	80 - 120%
7440-31-5	TIN	50	49.2	5		98	80 - 120%
7440-62-2	VANADIUM	50	48.9	1		98	80 - 120%
7440-66-6	ZINC	50	46.5	2		93	80 - 120%

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010B

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-54-31-120128
LabID: 1201354-1MS

Sample Matrix: SOIL
% Moisture: 12.5
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 1.018 g
Final Volume: 100 ml
Result Units: MG/KG
File Name: 120202A.

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7429-90-5	ALUMINUM	6600		9990		22.5	225	1490	80 - 120%
7440-36-0	ANTIMONY	2.2	U	28.8	N	2.25	56.2	51	80 - 120%
7440-38-2	ARSENIC	6.5		222		1.12	225	96	80 - 120%
7440-39-3	BARIUM	330		379	N	11.2	225	20	80 - 120%
7440-41-7	BERYLLIUM	0.56	U	6.02		0.562	5.62	107	80 - 120%
7440-43-9	CADMIUM	0.56	U	5.89		0.562	5.62	105	80 - 120%
7440-70-2	CALCIUM	9600		12500	N	112	4490	65	80 - 120%
7440-47-3	CHROMIUM	5		28.9		1.12	22.5	106	80 - 120%
7440-48-4	COBALT	3.9		58.2		1.12	56.2	97	80 - 120%
7440-50-8	COPPER	7.4		37.8		1.12	28.1	108	80 - 120%
7439-89-6	IRON	13000		14200		11.2	112	954	80 - 120%
7439-92-1	LEAD	16		69.7		0.337	56.2	96	80 - 120%
7439-95-4	MAGNESIUM	2500		7090		112	4490	102	80 - 120%
7439-96-5	MANGANESE	180		232		1.12	56.2	85	80 - 120%
7439-98-7	MOLYBDENUM	3.9		110		1.12	112	95	80 - 120%
7440-02-0	NICKEL	4.4		59.8		2.25	56.2	99	80 - 120%
7440-09-7	POTASSIUM	1400		6030		112	4490	104	80 - 120%
7782-49-2	SELENIUM	11		213		0.562	225	90	80 - 120%
7440-22-4	SILVER	1.1	U	10.8		1.12	11.2	96	80 - 120%
7440-23-5	SODIUM	810		4490		112	4490	82	80 - 120%
7440-28-0	THALLIUM	2.1		225		1.12	225	99	80 - 120%
7440-31-5	TIN	5.6	U	57.5		5.62	56.2	102	80 - 120%
7440-62-2	VANADIUM	90		170	N	1.12	56.2	142	80 - 120%
7440-66-6	ZINC	120		85.2	N	2.25	56.2	-70	80 - 120%

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010B

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-54-31-120128
LabID: 1201354-1MSD

Sample Matrix: SOIL
% Moisture: 12.5
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 1.015 g
Final Volume: 100 ml
Result Units: MG/KG
File Name: 120202A.

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7429-90-5	ALUMINUM	10300		225	1611	22.5	20	3
7440-36-0	ANTIMONY	29	N	56.3	52	2.25	20	1
7440-38-2	ARSENIC	222		225	96	1.13	20	0
7440-39-3	BARIUM	388	N	225	24	11.3	20	2
7440-41-7	BERYLLIUM	6.02		5.63	107	0.563	20	0
7440-43-9	CADMIUM	5.87		5.63	104	0.563	20	0
7440-70-2	CALCIUM	13100	N	4510	78	113	20	4
7440-47-3	CHROMIUM	29		22.5	106	1.13	20	0
7440-48-4	COBALT	58.1		56.3	96	1.13	20	0
7440-50-8	COPPER	38.4		28.2	110	1.13	20	1
7439-89-6	IRON	14600		113	1279	11.3	20	3
7439-92-1	LEAD	71.1		56.3	98	0.338	20	2
7439-95-4	MAGNESIUM	7190		4510	104	113	20	2
7439-96-5	MANGANESE	240		56.3	99	1.13	20	3
7439-98-7	MOLYBDENUM	110		113	95	1.13	20	0
7440-02-0	NICKEL	60.3		56.3	99	2.25	20	1
7440-09-7	POTASSIUM	6140		4510	106	113	20	2
7782-49-2	SELENIUM	213		225	90	0.563	20	0
7440-22-4	SILVER	10.9		11.3	97	1.13	20	1
7440-23-5	SODIUM	4560		4510	83	113	20	1
7440-28-0	THALLIUM	223		225	98	1.13	20	0
7440-31-5	TIN	56.5		56.3	100	5.63	20	2
7440-62-2	VANADIUM	176	N	56.3	154	1.13	20	4
7440-66-6	ZINC	84.7	N	56.3	-71	2.25	20	1

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Analytical Spike Sample Recovery

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-54-31-120128
LabID: 1201354-1A

Run ID: IT120202-2A1
Date Analyzed: 02-Feb-12
Result Units: mg/l

Target Analyte	Sample Result	Samp Qual	PS Result	PS Qual	Spike Added	PS % Rec.	Control Limits
ANTIMONY	0.0200	U	0.478		0.5	96	75 - 125%
BARIUM	3.01		5.03		2	101	75 - 125%
CALCIUM	86.2		122		40	89	75 - 125%
VANADIUM	0.806		1.26		0.5	91	75 - 125%
ZINC	1.12		1.54		0.5	85	75 - 125%

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Duplicate Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-54-31-120128
Lab ID: 1201354-1D

Sample Matrix: SOIL
% Moisture: 12.5
Date Collected: 01/28/2012
Date Extracted: 02/02/2012
Date Analyzed: 02/02/2012

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.023 g
Final Volume: 100 ml
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Sample Result	Samp Qual	Duplicate Result	Dup Qual	Reporting Limit	Dilution Factor	RPD	RPD Limit
7429-90-5	ALUMINUM	6600		6190		22.4	1	7	20
7440-36-0	ANTIMONY	2.2	U	2.24	U	2.24	1		20
7440-38-2	ARSENIC	6.5		5.98		1.12	1	9	20
7440-39-3	BARIUM	330		154	*	11.2	1	74	20
7440-41-7	BERYLLIUM	0.56	U	0.559	U	0.559	1		20
7440-43-9	CADMIUM	0.56	U	0.559	U	0.559	1		20
7440-70-2	CALCIUM	9600		8100		112	1	17	20
7440-47-3	CHROMIUM	5		4.71		1.12	1		20
7440-48-4	COBALT	3.9		3.63		1.12	1		20
7440-50-8	COPPER	7.4		6.8		1.12	1	9	20
7439-89-6	IRON	13000		12700		11.2	1	4	20
7439-92-1	LEAD	16		14.8		0.335	1	8	20
7439-95-4	MAGNESIUM	2500		2320		112	1	8	20
7439-96-5	MANGANESE	180		166		1.12	1	10	20
7439-98-7	MOLYBDENUM	3.9		3.79		1.12	1		20
7440-02-0	NICKEL	4.4		4.26		2.24	1		20
7440-09-7	POTASSIUM	1400		1050	*	112	1	25	20
7782-49-2	SELENIUM	11		15.3	*	0.559	1	33	20
7440-22-4	SILVER	1.1	U	1.12	U	1.12	1		20
7440-23-5	SODIUM	810		148	*	112	1	138	20
7440-28-0	THALLIUM	2.1		1.77		1.12	1		20
7440-31-5	TIN	5.6	U	5.59	U	5.59	1		20
7440-62-2	VANADIUM	90		90.3		1.12	1	1	20
7440-66-6	ZINC	120		59	*	2.24	1	71	20

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010
Serial Dilution

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-54-31-120128
Lab ID: 1201354-1L

Run ID: IT120202-2A1
Date Analyzed: 02-Feb-12
Result Units: mg/l

CASNO	Target Analyte	Sample Result	Samp Qual	SD Result	SD Qual	EPA Qualifier	%D
7429-90-5	ALUMINUM	59.7		57.9			3
7440-36-0	ANTIMONY	0.0200	U	0.100	U		
7440-38-2	ARSENIC	0.0588		0.0657			
7440-39-3	BARIUM	3.01		2.56		E	15
7440-41-7	BERYLLIUM	0.00500	U	0.0250	U		
7440-43-9	CADMIUM	0.00500	U	0.0250	U		
7440-70-2	CALCIUM	86.2		85.6			1
7440-47-3	CHROMIUM	0.0452		0.0500	U		
7440-48-4	COBALT	0.0353		0.0500	U		
7440-50-8	COPPER	0.0665		0.0500	U		
7439-89-6	IRON	118		114			4
7439-92-1	LEAD	0.144		0.140			3
7439-95-4	MAGNESIUM	22.5		21.8			3
7439-96-5	MANGANESE	1.65		1.66			0
7439-98-7	MOLYBDENUM	0.0349		0.0500	U		
7440-02-0	NICKEL	0.0396		0.100	U		
7440-09-7	POTASSIUM	12.1		7.58		E	38
7782-49-2	SELENIUM	0.0988		0.0898			9
7440-22-4	SILVER	0.0100	U	0.0500	U		
7440-23-5	SODIUM	7.31		5.00	U		
7440-28-0	THALLIUM	0.0190		0.0500	U		
7440-31-5	TIN	0.0500	U	0.250	U		
7440-62-2	VANADIUM	0.806		0.811			1
7440-66-6	ZINC	1.12		0.973		E	13

Data Package ID: *it1201354-1*

Prep Batch ID: IP120202-2

Start Date: 02/02/12
Start Time: 7:00
Prep Analyst: Brent A. Stanfield

End Date: 02/02/12
End Time: 17:00

Concentration Method: NONE
Extract Method: SW3050B
Initial Volume Units: g
Final Volume Units: ml

Batch Created By: bas
Date Created: 02/02/12
Time Created: 7:00
Validated By: bas
Date Validated: 02/02/12
Time Validated: 7:35

Comments:

QC Batch ID: IP120202-2-1

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
IP120202-2	MB	XXXXXX	SOIL	XXXXXX	1	100	NONE	1	1201354
IP120202-2	LCS	XXXXXX	SOIL	XXXXXX	1	100	NONE	1	1201354
1201354-1	MS	JM-54-31-120128	SOIL	1/28/2012	1.018	100	NONE	1	1201354
1201354-1	MSD	JM-54-31-120128	SOIL	1/28/2012	1.015	100	NONE	1	1201354
1201354-1	DUP	JM-54-31-120128	SOIL	1/28/2012	1.023	100	NONE	1	1201354
1201354-1	SMP	JM-54-31-120128	SOIL	1/28/2012	1.027	100	NONE	1	1201354
1201354-10	SMP	JM-84-31-120128	SOIL	1/28/2012	1.022	100	NONE	1	1201354
1201354-11	SMP	JM-88-31-120128	SOIL	1/28/2012	1.007	100	NONE	1	1201354
1201354-12	SMP	JMBKGD-NE-31-1201	SOIL	1/28/2012	1.033	100	NONE	1	1201354
1201354-13	SMP	JMBKGD-NW-31-120	SOIL	1/28/2012	1.014	100	NONE	1	1201354
1201354-2	SMP	JM-55-31-120128	SOIL	1/28/2012	1.041	100	NONE	1	1201354
1201354-3	SMP	JM-65-31-120128	SOIL	1/28/2012	1.001	100	NONE	1	1201354
1201354-4	SMP	JM-66-31-120128	SOIL	1/28/2012	1.041	100	NONE	1	1201354
1201354-5	SMP	JM-70-31-120128	SOIL	1/28/2012	1.034	100	NONE	1	1201354
1201354-6	SMP	JM-70-32-120128	SOIL	1/28/2012	1.004	100	NONE	1	1201354
1201354-7	SMP	JM-73-31-120128	SOIL	1/28/2012	1.031	100	NONE	1	1201354
1201354-8	SMP	JM-77-31-120128	SOIL	1/28/2012	1.012	100	NONE	1	1201354
1201354-9	SMP	JM-82-31-120128	SOIL	1/28/2012	1.031	100	NONE	1	1201354

QC Types

CAR	Carrier reference sample	DUP	Laboratory Duplicate
LCS	Laboratory Control Sample	LCSD	Laboratory Control Sample Duplicat
MB	Method Blank	MS	Laboratory Matrix Spike
MSD	Laboratory Matrix Spike Duplicate	REP	Sample replicate
RVS	Reporting Level Verification Standar	SMP	Field Sample
SYS	Sample Yield Spike		

ICP Metals

Method SW6010

Calibration Verifications

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: ICV
QC Type: Initial Calibration
File Name: 120202A.

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 15:07
Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
7429-90-5	ALUMINUM	25	25.5	0.2		102	90 - 110%
7440-36-0	ANTIMONY	0.25	0.246	0.02		98	90 - 110%
7440-38-2	ARSENIC	0.25	0.259	0.01		104	90 - 110%
7440-39-3	BARIUM	0.5	0.528	0.1		106	90 - 110%
7440-41-7	BERYLLIUM	0.25	0.250	0.005		100	90 - 110%
7440-43-9	CADMIUM	0.25	0.253	0.005		101	90 - 110%
7440-70-2	CALCIUM	25	25.1	1		100	90 - 110%
7440-47-3	CHROMIUM	0.5	0.510	0.01		102	90 - 110%
7440-48-4	COBALT	0.25	0.249	0.01		100	90 - 110%
7440-50-8	COPPER	0.5	0.512	0.01		102	90 - 110%
7439-89-6	IRON	10	10.2	0.1		102	90 - 110%
7439-92-1	LEAD	0.5	0.509	0.003		102	90 - 110%
7439-95-4	MAGNESIUM	25	24.8	1		99	90 - 110%
7439-96-5	MANGANESE	0.5	0.513	0.01		103	90 - 110%
7439-98-7	MOLYBDENUM	0.5	0.499	0.01		100	90 - 110%
7440-02-0	NICKEL	0.5	0.497	0.02		99	90 - 110%
7440-09-7	POTASSIUM	25	23.5	1		94	90 - 110%
7782-49-2	SELENIUM	0.5	0.510	0.005		102	90 - 110%
7440-22-4	SILVER	0.1	0.104	0.01		104	90 - 110%
7440-23-5	SODIUM	25	22.9	1		92	90 - 110%
7440-28-0	THALLIUM	0.25	0.266	0.01		106	90 - 110%
7440-31-5	TIN	0.5	0.521	0.05		104	90 - 110%
7440-61-1	URANIUM	2.5	2.55	0.2		102	90 - 110%
7440-62-2	VANADIUM	0.25	0.251	0.01		100	90 - 110%
7440-66-6	ZINC	0.5	0.492	0.02		98	90 - 110%

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Verifications

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCV1
QC Type: Continuing Calibration
File Name: 120202A.

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 15:22
Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
7429-90-5	ALUMINUM	50	51.6	0.2		103	90 - 110%
7440-36-0	ANTIMONY	0.5	0.495	0.02		99	90 - 110%
7440-38-2	ARSENIC	0.5	0.517	0.01		103	90 - 110%
7440-39-3	BARIUM	1	1.07	0.1		107	90 - 110%
7440-41-7	BERYLLIUM	0.5	0.488	0.005		98	90 - 110%
7440-43-9	CADMIUM	0.5	0.507	0.005		101	90 - 110%
7440-70-2	CALCIUM	50	50.5	1		101	90 - 110%
7440-47-3	CHROMIUM	1	1.01	0.01		101	90 - 110%
7440-48-4	COBALT	0.5	0.494	0.01		99	90 - 110%
7440-50-8	COPPER	1	1.04	0.01		104	90 - 110%
7439-89-6	IRON	20	20.4	0.1		102	90 - 110%
7439-92-1	LEAD	1	1.01	0.003		101	90 - 110%
7439-95-4	MAGNESIUM	50	50.1	1		100	90 - 110%
7439-96-5	MANGANESE	1	1.01	0.01		101	90 - 110%
7439-98-7	MOLYBDENUM	1	1.00	0.01		100	90 - 110%
7440-02-0	NICKEL	1	1.01	0.02		101	90 - 110%
7440-09-7	POTASSIUM	50	51.5	1		103	90 - 110%
7782-49-2	SELENIUM	1	1.02	0.005		102	90 - 110%
7440-22-4	SILVER	0.2	0.208	0.01		104	90 - 110%
7440-23-5	SODIUM	50	48.2	1		96	90 - 110%
7440-28-0	THALLIUM	0.5	0.520	0.01		104	90 - 110%
7440-31-5	TIN	1	1.03	0.05		103	90 - 110%
7440-61-1	URANIUM	5	5.14	0.2		103	90 - 110%
7440-62-2	VANADIUM	0.5	0.499	0.01		100	90 - 110%
7440-66-6	ZINC	1	0.966	0.02		97	90 - 110%

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Verifications

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCV2
QC Type: Continuing Calibration
File Name: 120202A.

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 15:26
Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
7429-90-5	ALUMINUM	50	51.5	0.2		103	90 - 110%
7440-36-0	ANTIMONY	0.5	0.489	0.02		98	90 - 110%
7440-38-2	ARSENIC	0.5	0.513	0.01		103	90 - 110%
7440-39-3	BARIUM	1	1.06	0.1		106	90 - 110%
7440-41-7	BERYLLIUM	0.5	0.486	0.005		97	90 - 110%
7440-43-9	CADMIUM	0.5	0.505	0.005		101	90 - 110%
7440-70-2	CALCIUM	50	50.2	1		100	90 - 110%
7440-47-3	CHROMIUM	1	1.01	0.01		101	90 - 110%
7440-48-4	COBALT	0.5	0.492	0.01		98	90 - 110%
7440-50-8	COPPER	1	1.04	0.01		104	90 - 110%
7439-89-6	IRON	20	20.3	0.1		102	90 - 110%
7439-92-1	LEAD	1	1.00	0.003		100	90 - 110%
7439-95-4	MAGNESIUM	50	49.9	1		100	90 - 110%
7439-96-5	MANGANESE	1	1.01	0.01		101	90 - 110%
7439-98-7	MOLYBDENUM	1	0.985	0.01		99	90 - 110%
7440-02-0	NICKEL	1	0.991	0.02		99	90 - 110%
7440-09-7	POTASSIUM	50	51.4	1		103	90 - 110%
7782-49-2	SELENIUM	1	1.00	0.005		100	90 - 110%
7440-22-4	SILVER	0.2	0.209	0.01		104	90 - 110%
7440-23-5	SODIUM	50	48.1	1		96	90 - 110%
7440-28-0	THALLIUM	0.5	0.517	0.01		103	90 - 110%
7440-31-5	TIN	1	1.02	0.05		102	90 - 110%
7440-61-1	URANIUM	5	5.14	0.2		103	90 - 110%
7440-62-2	VANADIUM	0.5	0.497	0.01		99	90 - 110%
7440-66-6	ZINC	1	0.953	0.02		95	90 - 110%

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Verifications

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCV3
QC Type: Continuing Calibration
File Name: 120202A.

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 15:55
Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
7429-90-5	ALUMINUM	50	51.8	0.2		104	90 - 110%
7440-36-0	ANTIMONY	0.5	0.494	0.02		99	90 - 110%
7440-38-2	ARSENIC	0.5	0.518	0.01		104	90 - 110%
7440-39-3	BARIUM	1	1.07	0.1		107	90 - 110%
7440-41-7	BERYLLIUM	0.5	0.486	0.005		97	90 - 110%
7440-43-9	CADMIUM	0.5	0.508	0.005		102	90 - 110%
7440-70-2	CALCIUM	50	50.4	1		101	90 - 110%
7440-47-3	CHROMIUM	1	1.01	0.01		101	90 - 110%
7440-48-4	COBALT	0.5	0.493	0.01		99	90 - 110%
7440-50-8	COPPER	1	1.05	0.01		105	90 - 110%
7439-89-6	IRON	20	20.3	0.1		102	90 - 110%
7439-92-1	LEAD	1	1.01	0.003		101	90 - 110%
7439-95-4	MAGNESIUM	50	49.9	1		100	90 - 110%
7439-96-5	MANGANESE	1	1.01	0.01		101	90 - 110%
7439-98-7	MOLYBDENUM	1	0.996	0.01		100	90 - 110%
7440-02-0	NICKEL	1	1.01	0.02		101	90 - 110%
7440-09-7	POTASSIUM	50	51.8	1		104	90 - 110%
7782-49-2	SELENIUM	1	1.01	0.005		101	90 - 110%
7440-22-4	SILVER	0.2	0.210	0.01		105	90 - 110%
7440-23-5	SODIUM	50	48.4	1		97	90 - 110%
7440-28-0	THALLIUM	0.5	0.523	0.01		105	90 - 110%
7440-31-5	TIN	1	1.03	0.05		103	90 - 110%
7440-61-1	URANIUM	5	5.18	0.2		104	90 - 110%
7440-62-2	VANADIUM	0.5	0.499	0.01		100	90 - 110%
7440-66-6	ZINC	1	0.949	0.02		95	90 - 110%

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Verifications

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCV4
QC Type: Continuing Calibration
File Name: 120202A.

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 16:19
Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
7429-90-5	ALUMINUM	50	52.2	0.2		104	90 - 110%
7440-36-0	ANTIMONY	0.5	0.500	0.02		100	90 - 110%
7440-38-2	ARSENIC	0.5	0.530	0.01		106	90 - 110%
7440-39-3	BARIUM	1	1.08	0.1		108	90 - 110%
7440-41-7	BERYLLIUM	0.5	0.490	0.005		98	90 - 110%
7440-43-9	CADMIUM	0.5	0.509	0.005		102	90 - 110%
7440-70-2	CALCIUM	50	50.4	1		101	90 - 110%
7440-47-3	CHROMIUM	1	1.01	0.01		101	90 - 110%
7440-48-4	COBALT	0.5	0.495	0.01		99	90 - 110%
7440-50-8	COPPER	1	1.06	0.01		106	90 - 110%
7439-89-6	IRON	20	20.4	0.1		102	90 - 110%
7439-92-1	LEAD	1	1.01	0.003		101	90 - 110%
7439-95-4	MAGNESIUM	50	50.4	1		101	90 - 110%
7439-96-5	MANGANESE	1	1.01	0.01		101	90 - 110%
7439-98-7	MOLYBDENUM	1	1.00	0.01		100	90 - 110%
7440-02-0	NICKEL	1	1.01	0.02		101	90 - 110%
7440-09-7	POTASSIUM	50	52.0	1		104	90 - 110%
7782-49-2	SELENIUM	1	1.01	0.005		101	90 - 110%
7440-22-4	SILVER	0.2	0.212	0.01		106	90 - 110%
7440-23-5	SODIUM	50	48.7	1		97	90 - 110%
7440-28-0	THALLIUM	0.5	0.525	0.01		105	90 - 110%
7440-31-5	TIN	1	1.04	0.05		104	90 - 110%
7440-61-1	URANIUM	5	5.20	0.2		104	90 - 110%
7440-62-2	VANADIUM	0.5	0.500	0.01		100	90 - 110%
7440-66-6	ZINC	1	0.967	0.02		97	90 - 110%

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Verifications

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCV5
QC Type: Continuing Calibration
File Name: 120202A.

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 16:44
Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
7429-90-5	ALUMINUM	50	51.7	0.2		103	90 - 110%
7440-36-0	ANTIMONY	0.5	0.494	0.02		99	90 - 110%
7440-38-2	ARSENIC	0.5	0.529	0.01		106	90 - 110%
7440-39-3	BARIUM	1	1.06	0.1		106	90 - 110%
7440-41-7	BERYLLIUM	0.5	0.491	0.005		98	90 - 110%
7440-43-9	CADMIUM	0.5	0.513	0.005		103	90 - 110%
7440-70-2	CALCIUM	50	50.9	1		102	90 - 110%
7440-47-3	CHROMIUM	1	1.02	0.01		102	90 - 110%
7440-48-4	COBALT	0.5	0.497	0.01		99	90 - 110%
7440-50-8	COPPER	1	1.05	0.01		105	90 - 110%
7439-89-6	IRON	20	20.3	0.1		102	90 - 110%
7439-92-1	LEAD	1	1.01	0.003		101	90 - 110%
7439-95-4	MAGNESIUM	50	50.2	1		100	90 - 110%
7439-96-5	MANGANESE	1	1.01	0.01		101	90 - 110%
7439-98-7	MOLYBDENUM	1	1.01	0.01		101	90 - 110%
7440-02-0	NICKEL	1	1.00	0.02		100	90 - 110%
7440-09-7	POTASSIUM	50	51.4	1		103	90 - 110%
7782-49-2	SELENIUM	1	1.01	0.005		101	90 - 110%
7440-22-4	SILVER	0.2	0.211	0.01		106	90 - 110%
7440-23-5	SODIUM	50	47.9	1		96	90 - 110%
7440-28-0	THALLIUM	0.5	0.531	0.01		106	90 - 110%
7440-31-5	TIN	1	1.04	0.05		104	90 - 110%
7440-61-1	URANIUM	5	5.15	0.2		103	90 - 110%
7440-62-2	VANADIUM	0.5	0.501	0.01		100	90 - 110%
7440-66-6	ZINC	1	0.985	0.02		99	90 - 110%

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Verifications

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCV6
QC Type: Continuing Calibration
File Name: 120202A.

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 17:09
Result Units: MG/L

CASNO	Target Analyte	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
7429-90-5	ALUMINUM	50	51.5	0.2		103	90 - 110%
7440-36-0	ANTIMONY	0.5	0.497	0.02		99	90 - 110%
7440-38-2	ARSENIC	0.5	0.525	0.01		105	90 - 110%
7440-39-3	BARIUM	1	1.06	0.1		106	90 - 110%
7440-41-7	BERYLLIUM	0.5	0.488	0.005		98	90 - 110%
7440-43-9	CADMIUM	0.5	0.511	0.005		102	90 - 110%
7440-70-2	CALCIUM	50	50.8	1		102	90 - 110%
7440-47-3	CHROMIUM	1	1.01	0.01		101	90 - 110%
7440-48-4	COBALT	0.5	0.495	0.01		99	90 - 110%
7440-50-8	COPPER	1	1.04	0.01		104	90 - 110%
7439-89-6	IRON	20	20.3	0.1		101	90 - 110%
7439-92-1	LEAD	1	1.00	0.003		100	90 - 110%
7439-95-4	MAGNESIUM	50	50.1	1		100	90 - 110%
7439-96-5	MANGANESE	1	1.01	0.01		101	90 - 110%
7439-98-7	MOLYBDENUM	1	1.00	0.01		100	90 - 110%
7440-02-0	NICKEL	1	1.00	0.02		100	90 - 110%
7440-09-7	POTASSIUM	50	51.0	1		102	90 - 110%
7782-49-2	SELENIUM	1	0.997	0.005		100	90 - 110%
7440-22-4	SILVER	0.2	0.213	0.01		106	90 - 110%
7440-23-5	SODIUM	50	47.8	1		96	90 - 110%
7440-28-0	THALLIUM	0.5	0.535	0.01		107	90 - 110%
7440-31-5	TIN	1	1.03	0.05		103	90 - 110%
7440-61-1	URANIUM	5	5.09	0.2		102	90 - 110%
7440-62-2	VANADIUM	0.5	0.498	0.01		100	90 - 110%
7440-66-6	ZINC	1	0.977	0.02		98	90 - 110%

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Blanks

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: ICB
QC Type: Initial Calibration

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 3:09:00 PM
Result Units: MG/L

CASNO	Target Analyte	Result	Reporting Limit	Result Qualifier
7429-90-5	ALUMINUM	0.2	0.2	U
7440-36-0	ANTIMONY	0.02	0.02	U
7440-38-2	ARSENIC	0.01	0.01	U
7440-39-3	BARIUM	0.1	0.1	U
7440-41-7	BERYLLIUM	0.005	0.005	U
7440-43-9	CADMIUM	0.005	0.005	U
7440-70-2	CALCIUM	1	1	U
7440-47-3	CHROMIUM	0.01	0.01	U
7440-48-4	COBALT	0.01	0.01	U
7440-50-8	COPPER	0.01	0.01	U
7439-89-6	IRON	0.1	0.1	U
7439-92-1	LEAD	0.003	0.003	U
7439-95-4	MAGNESIUM	1	1	U
7439-96-5	MANGANESE	0.01	0.01	U
7439-98-7	MOLYBDENUM	0.01	0.01	U
7440-02-0	NICKEL	0.02	0.02	U
7440-09-7	POTASSIUM	1	1	U
7782-49-2	SELENIUM	0.005	0.005	U
7440-22-4	SILVER	0.01	0.01	U
7440-23-5	SODIUM	1	1	U
7440-28-0	THALLIUM	0.01	0.01	U
7440-31-5	TIN	0.05	0.05	U
7440-61-1	URANIUM	0.2	0.2	U
7440-62-2	VANADIUM	0.01	0.01	U
7440-66-6	ZINC	0.02	0.02	U

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Blanks

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCB1
QC Type: Continuing Calibration

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 3:24:00 PM
Result Units: MG/L

CASNO	Target Analyte	Result	Reporting Limit	Result Qualifier
7429-90-5	ALUMINUM	0.2	0.2	U
7440-36-0	ANTIMONY	0.02	0.02	U
7440-38-2	ARSENIC	0.01	0.01	U
7440-39-3	BARIUM	0.1	0.1	U
7440-41-7	BERYLLIUM	0.005	0.005	U
7440-43-9	CADMIUM	0.005	0.005	U
7440-70-2	CALCIUM	1	1	U
7440-47-3	CHROMIUM	0.01	0.01	U
7440-48-4	COBALT	0.01	0.01	U
7440-50-8	COPPER	0.01	0.01	U
7439-89-6	IRON	0.1	0.1	U
7439-92-1	LEAD	0.003	0.003	U
7439-95-4	MAGNESIUM	1	1	U
7439-96-5	MANGANESE	0.01	0.01	U
7439-98-7	MOLYBDENUM	0.01	0.01	U
7440-02-0	NICKEL	0.02	0.02	U
7440-09-7	POTASSIUM	1	1	U
7782-49-2	SELENIUM	0.005	0.005	U
7440-22-4	SILVER	0.01	0.01	U
7440-23-5	SODIUM	1	1	U
7440-28-0	THALLIUM	0.01	0.01	U
7440-31-5	TIN	0.05	0.05	U
7440-61-1	URANIUM	0.2	0.2	U
7440-62-2	VANADIUM	0.01	0.01	U
7440-66-6	ZINC	0.02	0.02	U

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Blanks

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCB2
QC Type: Continuing Calibration

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 3:30:00 PM
Result Units: MG/L

CASNO	Target Analyte	Result	Reporting Limit	Result Qualifier
7429-90-5	ALUMINUM	0.2	0.2	U
7440-36-0	ANTIMONY	0.02	0.02	U
7440-38-2	ARSENIC	0.01	0.01	U
7440-39-3	BARIUM	0.1	0.1	U
7440-41-7	BERYLLIUM	0.005	0.005	U
7440-43-9	CADMIUM	0.005	0.005	U
7440-70-2	CALCIUM	1	1	U
7440-47-3	CHROMIUM	0.01	0.01	U
7440-48-4	COBALT	0.01	0.01	U
7440-50-8	COPPER	0.01	0.01	U
7439-89-6	IRON	0.1	0.1	U
7439-92-1	LEAD	0.003	0.003	U
7439-95-4	MAGNESIUM	1	1	U
7439-96-5	MANGANESE	0.01	0.01	U
7439-98-7	MOLYBDENUM	0.01	0.01	U
7440-02-0	NICKEL	0.02	0.02	U
7440-09-7	POTASSIUM	1	1	U
7782-49-2	SELENIUM	0.005	0.005	U
7440-22-4	SILVER	0.01	0.01	U
7440-23-5	SODIUM	1	1	U
7440-28-0	THALLIUM	0.01	0.01	U
7440-31-5	TIN	0.05	0.05	U
7440-61-1	URANIUM	0.2	0.2	U
7440-62-2	VANADIUM	0.01	0.01	U
7440-66-6	ZINC	0.02	0.02	U

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010
Calibration Blanks

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCB3
QC Type: Continuing Calibration

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 3:57:00 PM
Result Units: MG/L

CASNO	Target Analyte	Result	Reporting Limit	Result Qualifier
7429-90-5	ALUMINUM	0.2	0.2	U
7440-36-0	ANTIMONY	0.02	0.02	U
7440-38-2	ARSENIC	0.01	0.01	U
7440-39-3	BARIUM	0.1	0.1	U
7440-41-7	BERYLLIUM	0.005	0.005	U
7440-43-9	CADMIUM	0.005	0.005	U
7440-70-2	CALCIUM	1	1	U
7440-47-3	CHROMIUM	0.01	0.01	U
7440-48-4	COBALT	0.01	0.01	U
7440-50-8	COPPER	0.01	0.01	U
7439-89-6	IRON	0.1	0.1	U
7439-92-1	LEAD	0.003	0.003	U
7439-95-4	MAGNESIUM	1	1	U
7439-96-5	MANGANESE	0.01	0.01	U
7439-98-7	MOLYBDENUM	0.01	0.01	U
7440-02-0	NICKEL	0.02	0.02	U
7440-09-7	POTASSIUM	1	1	U
7782-49-2	SELENIUM	0.005	0.005	U
7440-22-4	SILVER	0.01	0.01	U
7440-23-5	SODIUM	1	1	U
7440-28-0	THALLIUM	0.01	0.01	U
7440-31-5	TIN	0.05	0.05	U
7440-61-1	URANIUM	0.2	0.2	U
7440-62-2	VANADIUM	0.01	0.01	U
7440-66-6	ZINC	0.02	0.02	U

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Blanks

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCB4
QC Type: Continuing Calibration

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 4:21:00 PM
Result Units: MG/L

CASNO	Target Analyte	Result	Reporting Limit	Result Qualifier
7429-90-5	ALUMINUM	0.2	0.2	U
7440-36-0	ANTIMONY	0.02	0.02	U
7440-38-2	ARSENIC	0.01	0.01	U
7440-39-3	BARIUM	0.1	0.1	U
7440-41-7	BERYLLIUM	0.005	0.005	U
7440-43-9	CADMIUM	0.005	0.005	U
7440-70-2	CALCIUM	1	1	U
7440-47-3	CHROMIUM	0.01	0.01	U
7440-48-4	COBALT	0.01	0.01	U
7440-50-8	COPPER	0.01	0.01	U
7439-89-6	IRON	0.1	0.1	U
7439-92-1	LEAD	0.003	0.003	U
7439-95-4	MAGNESIUM	1	1	U
7439-96-5	MANGANESE	0.01	0.01	U
7439-98-7	MOLYBDENUM	0.01	0.01	U
7440-02-0	NICKEL	0.02	0.02	U
7440-09-7	POTASSIUM	1	1	U
7782-49-2	SELENIUM	0.005	0.005	U
7440-22-4	SILVER	0.01	0.01	U
7440-23-5	SODIUM	1	1	U
7440-28-0	THALLIUM	0.01	0.01	U
7440-31-5	TIN	0.05	0.05	U
7440-61-1	URANIUM	0.2	0.2	U
7440-62-2	VANADIUM	0.01	0.01	U
7440-66-6	ZINC	0.02	0.02	U

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010
Calibration Blanks

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCB5
QC Type: Continuing Calibration

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 4:46:00 PM
Result Units: MG/L

CASNO	Target Analyte	Result	Reporting Limit	Result Qualifier
7429-90-5	ALUMINUM	0.2	0.2	U
7440-36-0	ANTIMONY	0.02	0.02	U
7440-38-2	ARSENIC	0.01	0.01	U
7440-39-3	BARIUM	0.1	0.1	U
7440-41-7	BERYLLIUM	0.005	0.005	U
7440-43-9	CADMIUM	0.005	0.005	U
7440-70-2	CALCIUM	1	1	U
7440-47-3	CHROMIUM	0.01	0.01	U
7440-48-4	COBALT	0.01	0.01	U
7440-50-8	COPPER	0.01	0.01	U
7439-89-6	IRON	0.1	0.1	U
7439-92-1	LEAD	0.003	0.003	U
7439-95-4	MAGNESIUM	1	1	U
7439-96-5	MANGANESE	0.01	0.01	U
7439-98-7	MOLYBDENUM	0.01	0.01	U
7440-02-0	NICKEL	0.02	0.02	U
7440-09-7	POTASSIUM	1	1	U
7782-49-2	SELENIUM	0.005	0.005	U
7440-22-4	SILVER	0.01	0.01	U
7440-23-5	SODIUM	1	1	U
7440-28-0	THALLIUM	0.01	0.01	U
7440-31-5	TIN	0.05	0.05	U
7440-61-1	URANIUM	0.2	0.2	U
7440-62-2	VANADIUM	0.01	0.01	U
7440-66-6	ZINC	0.02	0.02	U

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

Calibration Blanks

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: CCB6
QC Type: Continuing Calibration

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Time Analyzed: 5:10:00 PM
Result Units: MG/L

CASNO	Target Analyte	Result	Reporting Limit	Result Qualifier
7429-90-5	ALUMINUM	0.247	0.2	
7440-36-0	ANTIMONY	0.02	0.02	U
7440-38-2	ARSENIC	0.01	0.01	U
7440-39-3	BARIUM	0.1	0.1	U
7440-41-7	BERYLLIUM	0.005	0.005	U
7440-43-9	CADMIUM	0.005	0.005	U
7440-70-2	CALCIUM	1	1	U
7440-47-3	CHROMIUM	0.01	0.01	U
7440-48-4	COBALT	0.01	0.01	U
7440-50-8	COPPER	0.01	0.01	U
7439-89-6	IRON	0.1	0.1	U
7439-92-1	LEAD	0.003	0.003	U
7439-95-4	MAGNESIUM	1	1	U
7439-96-5	MANGANESE	0.01	0.01	U
7439-98-7	MOLYBDENUM	0.01	0.01	U
7440-02-0	NICKEL	0.02	0.02	U
7440-09-7	POTASSIUM	1	1	U
7782-49-2	SELENIUM	0.005	0.005	U
7440-22-4	SILVER	0.01	0.01	U
7440-23-5	SODIUM	1	1	U
7440-28-0	THALLIUM	0.01	0.01	U
7440-31-5	TIN	0.05	0.05	U
7440-61-1	URANIUM	0.2	0.2	U
7440-62-2	VANADIUM	0.01	0.01	U
7440-66-6	ZINC	0.02	0.02	U

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

ICP Interference Check Sample

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Result Units: MG/L

CASNO	Target Analyte	Spike Added		Results		% Rec.
		ICSA1	ICSAB1	ICSA1	ICSAB1	
7429-90-5	ALUMINUM	250	250	263	213	85
7440-36-0	ANTIMONY		0.6		0.585	98
7440-38-2	ARSENIC		0.1		0.102	102
7440-39-3	BARIUM		0.5		0.552	110
7440-41-7	BERYLLIUM		0.5		0.48500	97
7440-43-9	CADMIUM		1		1	100
7440-70-2	CALCIUM	250	250	263	262	105
7440-47-3	CHROMIUM		0.5		0.49200	98
7440-48-4	COBALT		0.5		0.48600	97
7440-50-8	COPPER		0.5		0.551	110
7439-89-6	IRON	100	100	107	107	107
7439-92-1	LEAD		0.05		0.04980	100
7439-95-4	MAGNESIUM	250	250	264	265	106
7439-96-5	MANGANESE		0.5		0.514	103
7439-98-7	MOLYBDENUM		1		0.993	99
7440-02-0	NICKEL		1		0.991	99
7440-09-7	POTASSIUM					
7782-49-2	SELENIUM		0.05		0.0514	103
7440-22-4	SILVER		0.2		0.20200	101
7440-23-5	SODIUM					
7440-28-0	THALLIUM		0.1		0.10700	107
7440-31-5	TIN		1		1.03	103
7440-61-1	URANIUM		10		10.8000	108
7440-62-2	VANADIUM		0.5		0.49500	99
7440-66-6	ZINC		1		0.92000	92

Data Package ID: *it1201354-1*

ICP Metals

Method SW6010

ICP Interference Check Sample

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Run ID: IT120202-2A1
Date Analyzed: 02/02/2012
Result Units: MG/L

CASNO	Target Analyte	Spike Added		Results		% Rec.
		ICSA2	ICSAB2	ICSA2	ICSAB2	
7429-90-5	ALUMINUM	250	250	260	209	84
7440-36-0	ANTIMONY		0.6		0.58300	97
7440-38-2	ARSENIC		0.1		0.10300	103
7440-39-3	BARIUM		0.5		0.538	108
7440-41-7	BERYLLIUM		0.5		0.47900	96
7440-43-9	CADMIUM		1		1.01	101
7440-70-2	CALCIUM	250	250	259	262	105
7440-47-3	CHROMIUM		0.5		0.489	98
7440-48-4	COBALT		0.5		0.482	96
7440-50-8	COPPER		0.5		0.54400	109
7439-89-6	IRON	100	100	104	105	105
7439-92-1	LEAD		0.05		0.05160	103
7439-95-4	MAGNESIUM	250	250	262	263	105
7439-96-5	MANGANESE		0.5		0.506	101
7439-98-7	MOLYBDENUM		1		0.982	98
7440-02-0	NICKEL		1		0.982	98
7440-09-7	POTASSIUM					
7782-49-2	SELENIUM		0.05		0.0466	93
7440-22-4	SILVER		0.2		0.203	101
7440-23-5	SODIUM					
7440-28-0	THALLIUM		0.1		0.11200	112
7440-31-5	TIN		1		1.03	103
7440-61-1	URANIUM		10		10.5	105
7440-62-2	VANADIUM		0.5		0.48800	98
7440-66-6	ZINC		1		0.927	93

Data Package ID: *it1201354-1*

Metals Linear Ranges

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Instrument ID: ICPTrace2
Active Date: 03/02/2010
Expiration Date: 05/31/2015

CASNO	Target Analyte	Concentration (ppm)
7429-90-5	ALUMINUM	500
7440-36-0	ANTIMONY	2
7440-38-2	ARSENIC	5
7440-39-3	BARIUM	10
7440-41-7	BERYLLIUM	1
7440-43-9	CADMIUM	5
7440-70-2	CALCIUM	500
7440-47-3	CHROMIUM	10
7440-48-4	COBALT	5
7440-50-8	COPPER	10
7439-89-6	IRON	200
7439-92-1	LEAD	10
7439-95-4	MAGNESIUM	500
7439-96-5	MANGANESE	10
7439-98-7	MOLYBDENUM	10
7440-02-0	NICKEL	10
7440-09-7	POTASSIUM	250
7782-49-2	SELENIUM	5
7440-22-4	SILVER	2
7440-23-5	SODIUM	150
7440-28-0	THALLIUM	5
7440-31-5	TIN	10
7440-61-1	URANIUM	50
7440-62-2	VANADIUM	5
7440-66-6	ZINC	10

ICP Interelement Correction Factors

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Instrument ID: ICPTrace2
Active Date: 1/3/2012
Expiration Date: 1/3/2013

Analyte	Lamda (nm)	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Ni	Th
ALUMINUM																	
ANTIMONY									0.0103504								
ARSENIC																	
BERYLLIUM																	
CADMIUM				0.0068507													
CHROMIUM																	
COBALT					-0.001400												
COPPER																	
LEAD		0.0002559										0.0000304					
MANGANESE																	
SELENIUM												-0.000371					
SILVER																	
THALLIUM												-0.000475			-0.000176		
TIN																	
URANIUM												6.809E-05					
VANADIUM												-0.000159					
ZINC																	

ICP Interelement Correction Factors

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Instrument ID: ICPTrace2
Active Date: 1/3/2012
Expiration Date: 1/3/2013

Analyte	Lamda (nm)	K	Se	Ag	Na	Tl	V	Zn	Sn	Ti	Mo	Li	Sr	B	Si	U	Zr
ALUMINUM							0.0125517				0.0033239					-0.035496	
ANTIMONY											-0.007006						
ARSENIC																	
BERYLLIUM																	
CADMIUM																	
CHROMIUM																0.0005333	
COBALT										0.002105							
COPPER																0.0010734	
LEAD							0.0010513			-0.000532	-0.001821					0.0006768	
MANGANESE																	
SELENIUM																-0.000948	
SILVER																0.0006982	0.0038966
THALLIUM							0.0006359			0.0006156						-0.000582	
TIN										0.0011632							
URANIUM																	
VANADIUM																	
ZINC																	

ICPTrace2 Run Log -- 2/2/2012

Instrument ID: ICPTrace2
File Name: 120202A.
AnalRunID: IT120202-2A1
CalibRefID: IT120202-2A1

Comment	Field ID	Lab ID	DF	Date Analyzed	Time Analyzed
		MIXBHIGH	1	2/2/2012	14:37
		MIXAHIGH	1	2/2/2012	14:39
		MIXCHIGH	1	2/2/2012	14:41
		ICV	1	2/2/2012	15:07
		ICB	1	2/2/2012	15:09
		CRI1	1	2/2/2012	15:12
		ZZZ	1	2/2/2012	15:14
		ICSA1	1	2/2/2012	15:18
		ICSAB1	1	2/2/2012	15:20
		CCV1	1	2/2/2012	15:22
		CCB1	1	2/2/2012	15:24
		CCV2	1	2/2/2012	15:26
		CCB2	1	2/2/2012	15:30
		ZZZ	1	2/2/2012	15:32
		IP120202-2MB	1	2/2/2012	15:36
		IP120202-2LCS	1	2/2/2012	15:38
	JM-54-31-120128	1201354-1	1	2/2/2012	15:40
	JM-54-31-120128	1201354-1DUP	1	2/2/2012	15:42
	JM-54-31-120128	1201354-1SER	5	2/2/2012	15:44
	JM-54-31-120128	1201354-1MS	1	2/2/2012	15:47
	JM-54-31-120128	1201354-1MSD	1	2/2/2012	15:49
	JM-55-31-120128	1201354-2	1	2/2/2012	15:51
	JM-65-31-120128	1201354-3	1	2/2/2012	15:53
		CCV3	1	2/2/2012	15:55
		CCB3	1	2/2/2012	15:57
	JM-66-31-120128	1201354-4	1	2/2/2012	15:59
	JM-70-31-120128	1201354-5	1	2/2/2012	16:01
	JM-70-32-120128	1201354-6	1	2/2/2012	16:03
	JM-73-31-120128	1201354-7	1	2/2/2012	16:05
	JM-77-31-120128	1201354-8	1	2/2/2012	16:07
	JM-82-31-120128	1201354-9	1	2/2/2012	16:09
	JM-84-31-120128	1201354-10	1	2/2/2012	16:11
	JM-88-31-120128	1201354-11	1	2/2/2012	16:13
	JMBKGD-NE-31-120128	1201354-12	1	2/2/2012	16:15
- Fe,Pb,Se,Tl,U,V	JMBKGD-NW-31-120128	1201354-13	1	2/2/2012	16:16

Data Package ID: IT1201354-1

ICPTrace2 Run Log -- 2/2/2012

Instrument ID: ICPTrace2
File Name: 120202A.
AnalRunID: IT120202-2A1
CalibRefID: IT120202-2A1

Comment	Field ID	Lab ID	DF	Date Analyzed	Time Analyzed
		CCV4	1	2/2/2012	16:19
		CCB4	1	2/2/2012	16:21
		EX120201-2MB	1	2/2/2012	16:23
		EX120201-2	1	2/2/2012	16:25
- Na		EX120201-2LCS	1	2/2/2012	16:27
		1201363-11	1	2/2/2012	16:29
		1201363-11DUP	1	2/2/2012	16:31
		1201363-11SER	5	2/2/2012	16:33
- Na		1201363-11MS	1	2/2/2012	16:35
- Na		1201363-11MSD	1	2/2/2012	16:38
		1201363-13	1	2/2/2012	16:40
		1201363-15	1	2/2/2012	16:42
		CCV5	1	2/2/2012	16:44
		CCB5	1	2/2/2012	16:46
		1201363-17	1	2/2/2012	16:48
		1201363-19	1	2/2/2012	16:50
		ZZZ	1	2/2/2012	16:52
+ Ba,Ca,Sb,V,Zn	JM-54-31-120128	1201354-1A	1	2/2/2012	16:58
+ Fe,Pb,Se,Tl,U,V	JMBKGD-NW-31-120128	1201354-13	5	2/2/2012	17:00
		CRI2	1	2/2/2012	17:02
		ICSA2	1	2/2/2012	17:04
		ICSAB2	1	2/2/2012	17:06
		CCV6	1	2/2/2012	17:09
		CCB6	1	2/2/2012	17:10

Data Package ID: IT1201354-1

ICPMS Metals

Method SW6020A
Method Blank

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: IP120202-2MB

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02-Feb-12
Date Analyzed: 03-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-2
Run ID: IM120203-10A1
Cleanup: NONE
Basis: N/A
File Name: 027SMPL_

Sample Aliquot: 1 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7440-61-1	URANIUM	10	13	10		

Data Package ID: *im1201354-1*

ICPMS Metals

Method SW6020A

Laboratory Control Sample

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: IM120202-2LCS

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02/02/2012
Date Analyzed: 02/03/2012
Prep Method: SW 3050B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-2
Run ID: IM120203-10A1
Cleanup: NONE
Basis: N/A
File Name: 028SMPL_

Sample Aliquot: 1 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7440-61-1	URANIUM	1000	990	10		99	80 - 120%

Data Package ID: *im1201354-1*

ICPMS Metals

Method SW6020A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-54-31-120128
LabID: 1201354-1MS

Sample Matrix: SOIL
% Moisture: 12.5
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 03-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-2
Run ID: IM120203-10A1
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 1.018 g
Final Volume: 100 ml
Result Units: UG/KG
File Name: 032SMPL_

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7440-61-1	URANIUM	38000		37100		11.2	1120	-80	75 - 125%

Field ID: JM-54-31-120128
LabID: 1201354-1MSD

Sample Matrix: SOIL
% Moisture: 12.5
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 03-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-2
Run ID: IM120203-10A1
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 1.015 g
Final Volume: 100 ml
Result Units: UG/KG
File Name: 033SMPL_

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7440-61-1	URANIUM	38600		1130	57	11.3	20	4

Data Package ID: *im1201354-1*

ICPMS Metals

Method SW6020

Duplicate Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-54-31-120128
Lab ID: 1201354-1D

Sample Matrix: SOIL
% Moisture: 12.5
Date Collected: 01/28/2012
Date Extracted: 02/02/2012
Date Analyzed: 02/03/2012

Prep Batch: IP120202-2
QCBatchID: IP120202-2-2
Run ID: IM120203-10A1
Cleanup: NONE
Basis: Dry Weight
File Name: 030SMPL_

Sample Aliquot: 1.023 g
Final Volume: 100 ml
Result Units: UG/KG
Clean DF: 1

CASNO	Target Analyte	Sample Result	Samp Qual	Duplicate Result	Dup Qual	Reporting Limit	Dilution Factor	RPD	RPD Limit
7440-61-1	URANIUM	38000		36900		11.2	10	3	20

Data Package ID: *im1201354-1*

ICPMS Metals

Method SW6020

Serial Dilution

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-54-31-120128
Lab ID: 1201354-1L

Run ID: IM120203-10A1
Date Analyzed: 03-Feb-12
Result Units: mg/l

CASNO	Target Analyte	Sample Result	Samp Qual	SD Result	SD Qual	EPA Qualifier	%D
7440-61-1	URANIUM	0.0341		0.0347			2

Data Package ID: *im1201354-1*

Prep Batch ID: IP120202-2

Start Date: 02/02/12 **End Date:** 02/02/12 **Concentration Method:** NONE **Batch Created By:** bas
Start Time: 7:00 **End Time:** 17:00 **Extract Method:** SW3050B **Date Created:** 02/02/12
Prep Analyst: Brent A. Stanfield **Initial Volume Units:** g **Time Created:** 7:00
Final Volume Units: ml **Validated By:** bas
Date Validated: 02/02/12
Time Validated: 7:35

Comments:

QC Batch ID: IP120202-2-2

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
IP120202-2	MB	XXXXXX	SOIL	XXXXXX	1	100	NONE	1	1201354
IM120202-2	LCS	XXXXXX	SOIL	XXXXXX	1	100	NONE	1	1201354
1201354-1	MS	JM-54-31-120128	SOIL	1/28/2012	1.018	100	NONE	1	1201354
1201354-1	MSD	JM-54-31-120128	SOIL	1/28/2012	1.015	100	NONE	1	1201354
1201354-1	DUP	JM-54-31-120128	SOIL	1/28/2012	1.023	100	NONE	1	1201354
1201354-1	SMP	JM-54-31-120128	SOIL	1/28/2012	1.027	100	NONE	1	1201354
1201354-10	SMP	JM-84-31-120128	SOIL	1/28/2012	1.022	100	NONE	1	1201354
1201354-11	SMP	JM-88-31-120128	SOIL	1/28/2012	1.007	100	NONE	1	1201354
1201354-12	SMP	JMBKGD-NE-31-1201	SOIL	1/28/2012	1.033	100	NONE	1	1201354
1201354-13	SMP	JMBKGD-NW-31-120	SOIL	1/28/2012	1.014	100	NONE	1	1201354
1201354-2	SMP	JM-55-31-120128	SOIL	1/28/2012	1.041	100	NONE	1	1201354
1201354-3	SMP	JM-65-31-120128	SOIL	1/28/2012	1.001	100	NONE	1	1201354
1201354-4	SMP	JM-66-31-120128	SOIL	1/28/2012	1.041	100	NONE	1	1201354
1201354-5	SMP	JM-70-31-120128	SOIL	1/28/2012	1.034	100	NONE	1	1201354
1201354-6	SMP	JM-70-32-120128	SOIL	1/28/2012	1.004	100	NONE	1	1201354
1201354-7	SMP	JM-73-31-120128	SOIL	1/28/2012	1.031	100	NONE	1	1201354
1201354-8	SMP	JM-77-31-120128	SOIL	1/28/2012	1.012	100	NONE	1	1201354
1201354-9	SMP	JM-82-31-120128	SOIL	1/28/2012	1.031	100	NONE	1	1201354

QC Types

CAR	Carrier reference sample	DUP	Laboratory Duplicate
LCS	Laboratory Control Sample	LCSD	Laboratory Control Sample Duplicat
MB	Method Blank	MS	Laboratory Matrix Spike
MSD	Laboratory Matrix Spike Duplicate	REP	Sample replicate
RVS	Reporting Level Verification Standar	SMP	Field Sample
SYS	Sample Yield Spike		

URANIUM

Method SW6020

Calibration Verifications

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Run ID: IM120203-10A1
Result Units: MG/L

Lab ID	Verification Type	Date Analyzed	Time Analyzed	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
ICV	Initial Calibration	2/3/2012	10:12	0.002	0.00191	0.00001	N/A	96	90 - 110
CCV1	Continuing Calibration	2/3/2012	10:26	0.001	0.000991	0.00001	N/A	99	90 - 110
CCV2	Continuing Calibration	2/3/2012	10:51	0.001	0.00104	0.00001	N/A	104	90 - 110
CCV3	Continuing Calibration	2/3/2012	11:19	0.001	0.00103	0.00001	N/A	103	90 - 110
CCV4	Continuing Calibration	2/3/2012	11:47	0.001	0.00103	0.00001	N/A	103	90 - 110
CCV5	Continuing Calibration	2/3/2012	12:39	0.001	0.00101	0.00001	N/A	101	90 - 110
CCV6	Continuing Calibration	2/3/2012	12:57	0.001	0.00102	0.00001	N/A	102	90 - 110

Data Package ID: *im1201354-1*

URANIUM

Method SW6020

Calibration Blanks

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Run ID: IM120203-10A1
Result Units: MG/L

Lab ID	Verification Type	Date Analyzed	Time Analyzed	Result	Reporting Limit	Flag
ICB	Initial Calibration	2/3/2012	10:14	0.00001	0.00001	U
CCB1	Continuing Calibration	2/3/2012	10:28	0.00001	0.00001	U
CCB2	Continuing Calibration	2/3/2012	10:54	0.00001	0.00001	U
CCB3	Continuing Calibration	2/3/2012	11:21	0.00001	0.00001	U
CCB4	Continuing Calibration	2/3/2012	11:49	0.00001	0.00001	U
CCB5	Continuing Calibration	2/3/2012	12:41	0.00001	0.00001	U
CCB6	Continuing Calibration	2/3/2012	12:59	0.00001	0.00001	U

Data Package ID: *im1201354-1*

ICPMS Metals

Method SW6020

ICP Interference Check Sample

Lab Name: **ALS Environmental -- FC**
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Run ID: IM120203-10A1
Date Analyzed: 02/03/2012
Result Units: MG/L

CASNO	Target Analyte	Spike Added		Results		% Rec.
		ICSA1	ICSAB1	ICSA1	ICSAB1	
7440-38-2	ARSENIC		0.01		0.01	100
7440-39-3	BARIUM		0.01		0.0105	105
7440-43-9	CADMIUM		0.003		0.00314	105
7440-47-3	CHROMIUM		0.05		0.05090	102
7439-92-1	LEAD		0.005		0.00506	101
7782-49-2	SELENIUM		0.01		0.01030	103
7440-22-4	SILVER		0.001		0.00104	104
7440-61-1	URANIUM		0.001		0.00103	103

Data Package ID: *im1201354-1*

Metals Linear Ranges

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Instrument ID: ICPMS2
Active Date: 04/01/2010
Expiration Date: 04/01/2015

CASNO	Target Analyte	Concentration (ppm)
7429-90-5	ALUMINUM	50
7440-36-0	ANTIMONY	0.3
7440-38-2	ARSENIC	1
7440-39-3	BARIUM	1
7440-41-7	BERYLLIUM	0.5
7440-43-9	CADMIUM	0.3
7440-70-2	CALCIUM	500
7440-47-3	CHROMIUM	5
7440-48-4	COBALT	1
7440-50-8	COPPER	10
7439-89-6	IRON	50
7439-92-1	LEAD	0.5
7439-95-4	MAGNESIUM	100
7439-96-5	MANGANESE	2
7439-98-7	MOLYBDENUM	1
7440-02-0	NICKEL	5
7440-09-7	POTASSIUM	500
7782-49-2	SELENIUM	1
7440-22-4	SILVER	0.1
7440-23-5	SODIUM	1000
7440-28-0	THALLIUM	0.02
7440-31-5	TIN	5
7440-61-1	URANIUM	0.1
7440-62-2	VANADIUM	1
7440-66-6	ZINC	20

ICPMS2 Run Log -- 2/3/2012

Instrument ID: ICPMS2
File Name: 003CALB_
AnalRunID: IM120203-10A1
CalibRefID: IM120203-10A1

Comment	Field ID	Lab ID	DF	Date Analyzed	Time Analyzed
		blank	1	2/3/2012	10:00
		H/1000	1	2/3/2012	10:03
		H/100	1	2/3/2012	10:05
		H/10	1	2/3/2012	10:07
		HIGH	1	2/3/2012	10:10
		ICV	1	2/3/2012	10:12
		ICB	1	2/3/2012	10:14
		CRI1	1	2/3/2012	10:17
		CRI2	1	2/3/2012	10:19
		ICSA1	1	2/3/2012	10:21
		ICSAB1	1	2/3/2012	10:24
		CCV1	1	2/3/2012	10:26
		CCB1	1	2/3/2012	10:28
		EX120201-2MB	10	2/3/2012	10:30
		EXM120201-2	10	2/3/2012	10:33
		EXM120201-2LCS	10	2/3/2012	10:35
		1201363-11	10	2/3/2012	10:37
		1201363-11DUP	10	2/3/2012	10:40
		1201363-11SER	50	2/3/2012	10:42
		1201363-11MS	10	2/3/2012	10:44
		1201363-11MSD	10	2/3/2012	10:47
		1201358-2	50	2/3/2012	10:49
		CCV2	1	2/3/2012	10:51
		CCB2	1	2/3/2012	10:54
		IP120202-2MB	10	2/3/2012	10:56
		IM120202-2LCS	10	2/3/2012	10:58
	JM-54-31-120128	1201354-1	10	2/3/2012	11:01
	JM-54-31-120128	1201354-1DUP	10	2/3/2012	11:03
	JM-54-31-120128	1201354-1SER	50	2/3/2012	11:05
	JM-54-31-120128	1201354-1MS	10	2/3/2012	11:08
	JM-54-31-120128	1201354-1MSD	10	2/3/2012	11:10
		ZZZZZZ	1	2/3/2012	11:12
		ZZZZZZ	1	2/3/2012	11:14
		ZZZZZZ	1	2/3/2012	11:17
		CCV3	1	2/3/2012	11:19

Data Package ID: IM1201354-1

ICPMS2 Run Log -- 2/3/2012

Instrument ID: ICPMS2
File Name: 038SMPL_
AnalRunID: IM120203-10A1
CalibRefID: IM120203-10A1

Comment	Field ID	Lab ID	DF	Date Analyzed	Time Analyzed
		CCB3	1	2/3/2012	11:21
		ZZZZZZ	1	2/3/2012	11:24
		ZZZZZZ	1	2/3/2012	11:26
		ZZZZZZ	1	2/3/2012	11:28
		ZZZZZZ	1	2/3/2012	11:31
		ZZZZZZ	1	2/3/2012	11:33
		ZZZZZZ	1	2/3/2012	11:35
		ZZZZZZ	1	2/3/2012	11:38
		ZZZZZZ	1	2/3/2012	11:40
		ZZZZZZ	1	2/3/2012	11:42
- As,Se		1201358-1	50	2/3/2012	11:45
		CCV4	1	2/3/2012	11:47
		CCB4	1	2/3/2012	11:49
	JMBKGD-NE-31-120128	1201354-12	10	2/3/2012	12:16
	JMBKGD-NW-31-120128	1201354-13	10	2/3/2012	12:18
	JM-55-31-120128	1201354-2	100	2/3/2012	12:20
	JM-65-31-120128	1201354-3	100	2/3/2012	12:23
	JM-66-31-120128	1201354-4	10	2/3/2012	12:25
	JM-70-31-120128	1201354-5	100	2/3/2012	12:27
	JM-70-32-120128	1201354-6	100	2/3/2012	12:30
	JM-73-31-120128	1201354-7	100	2/3/2012	12:32
	JM-77-31-120128	1201354-8	100	2/3/2012	12:34
	JM-82-31-120128	1201354-9	100	2/3/2012	12:37
		CCV5	1	2/3/2012	12:39
		CCB5	1	2/3/2012	12:41
	JM-84-31-120128	1201354-10	10	2/3/2012	12:43
	JM-88-31-120128	1201354-11	100	2/3/2012	12:46
Ag,Ba,Cd,Cr,Pb,U		1201358-1	50	2/3/2012	12:55
		CCV6	1	2/3/2012	12:57
		CCB6	1	2/3/2012	12:59

Data Package ID: IM1201354-1

Mercury

Method SW7471A
Method Blank

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: HG120206-1MB

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 06-Feb-12
Date Analyzed: 07-Feb-12
Prep Method: METHOD

Prep Batch: HG120206-1
QCBatchID: HG120206-1-1
Run ID: HG120207-1A1
Cleanup: NONE
Basis: N/A
File Name: HG120206-1

Sample Aliquot: 0.6 g
Final Volume: 100 g
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7439-97-6	MERCURY	1	0.033	0.033	U	

Data Package ID: *hg1201354-1*

Mercury

Method SW7471A

Laboratory Control Sample

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Lab ID: HG120206-1LCS

Sample Matrix: SOIL
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02/06/2012
Date Analyzed: 02/07/2012
Prep Method: METHOD

Prep Batch: HG120206-1
QCBatchID: HG120206-1-1
Run ID: HG120207-1A1
Cleanup: NONE
Basis: N/A
File Name: HG120206-1

Sample Aliquot: 0.6 g
Final Volume: 100 g
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7439-97-6	MERCURY	0.167	0.168	0.0333		101	80 - 120%

Data Package ID: *hg1201354-1*

Mercury

Method SW7471A

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JMBKGD-NW-31-12012
LabID: 1201354-13MS

Sample Matrix: SOIL
% Moisture: 7.4
Date Collected: 28-Jan-12
Date Extracted: 06-Feb-12
Date Analyzed: 07-Feb-12
Prep Method: METHOD

Prep Batch: HG120206-1
QCBatchID: HG120206-1-1
Run ID: HG120207-1A1
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 0.604 g
Final Volume: 100 g
Result Units: MG/KG
File Name: HG120206-1

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7439-97-6	MERCURY	0.036	U	0.39		0.0358	0.358	109	80 - 120%

Field ID: JMBKGD-NW-31-12012
LabID: 1201354-13MSD

Sample Matrix: SOIL
% Moisture: 7.4
Date Collected: 28-Jan-12
Date Extracted: 06-Feb-12
Date Analyzed: 07-Feb-12
Prep Method: METHOD

Prep Batch: HG120206-1
QCBatchID: HG120206-1-1
Run ID: HG120207-1A1
Cleanup: NONE
Basis: Dry Weight

Sample Aliquot: 0.607 g
Final Volume: 100 g
Result Units: MG/KG
File Name: HG120206-1

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7439-97-6	MERCURY	0.39		0.356	110	0.0356	20	0

Data Package ID: *hg1201354-1*

Mercury

Method SW7471
Duplicate Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JMBKGD-NW-31-12012
Lab ID: 1201354-13D

Sample Matrix: SOIL
% Moisture: 7.4
Date Collected: 01/28/2012
Date Extracted: 02/06/2012
Date Analyzed: 02/07/2012

Prep Batch: HG120206-1
QCBatchID: HG120206-1-1
Run ID: HG120207-1A1
Cleanup: NONE
Basis: Dry Weight
File Name: HG120206-1

Sample Aliquot: 0.616 g
Final Volume: 100 g
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Sample Result	Samp Qual	Duplicate Result	Dup Qual	Reporting Limit	Dilution Factor	RPD	RPD Limit
7439-97-6	MERCURY	0.036	U	0.0351	U	0.0351	1		20

Data Package ID: *hg1201354-1*

Prep Batch ID: HG120206-1

Start Date: 02/06/12
Start Time: 8:32
Prep Analyst: Sheri Lafferty

End Date: 02/06/12
End Time: 8:32

Concentration Method: NONE
Extract Method: METHOD
Initial Volume Units: g
Final Volume Units: g

Batch Created By: SKL
Date Created: 02/06/12
Time Created: 8:32
Validated By: SKL
Date Validated: 02/07/12
Time Validated: 7:48

Comments:

QC Batch ID: HG120206-1-1

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
HG120206-1	MB	XXXXXX	SOIL	XXXXXX	0.6	100	NONE	1	1201354
HG120206-1	LCS	XXXXXX	SOIL	XXXXXX	0.6	100	NONE	1	1201354
1201354-13	MS	JMBKGD-NW-31-120	SOIL	1/28/2012	0.604	100	NONE	1	1201354
1201354-13	MSD	JMBKGD-NW-31-120	SOIL	1/28/2012	0.607	100	NONE	1	1201354
1201354-13	DUP	JMBKGD-NW-31-120	SOIL	1/28/2012	0.616	100	NONE	1	1201354
1201354-1	SMP	JM-54-31-120128	SOIL	1/28/2012	0.614	100	NONE	1	1201354
1201354-10	SMP	JM-84-31-120128	SOIL	1/28/2012	0.61	100	NONE	1	1201354
1201354-11	SMP	JM-88-31-120128	SOIL	1/28/2012	0.602	100	NONE	1	1201354
1201354-12	SMP	JMBKGD-NE-31-1201	SOIL	1/28/2012	0.614	100	NONE	1	1201354
1201354-13	SMP	JMBKGD-NW-31-120	SOIL	1/28/2012	0.608	100	NONE	1	1201354
1201354-2	SMP	JM-55-31-120128	SOIL	1/28/2012	0.616	100	NONE	1	1201354
1201354-3	SMP	JM-65-31-120128	SOIL	1/28/2012	0.603	100	NONE	1	1201354
1201354-4	SMP	JM-66-31-120128	SOIL	1/28/2012	0.613	100	NONE	1	1201354
1201354-5	SMP	JM-70-31-120128	SOIL	1/28/2012	0.605	100	NONE	1	1201354
1201354-6	SMP	JM-70-32-120128	SOIL	1/28/2012	0.6	100	NONE	1	1201354
1201354-7	SMP	JM-73-31-120128	SOIL	1/28/2012	0.615	100	NONE	1	1201354
1201354-8	SMP	JM-77-31-120128	SOIL	1/28/2012	0.604	100	NONE	1	1201354
1201354-9	SMP	JM-82-31-120128	SOIL	1/28/2012	0.608	100	NONE	1	1201354

QC Types

CAR	Carrier reference sample	DUP	Laboratory Duplicate
LCS	Laboratory Control Sample	LCSD	Laboratory Control Sample Duplicat
MB	Method Blank	MS	Laboratory Matrix Spike
MSD	Laboratory Matrix Spike Duplicate	REP	Sample replicate
RVS	Reporting Level Verification Standar	SMP	Field Sample
SYS	Sample Yield Spike		

MERCURY

Method SW7471

Calibration Verifications

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Run ID: HG120207-1A1
Result Units: MG/L

Lab ID	Verification Type	Date Analyzed	Time Analyzed	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
ICV	Initial Calibration	2/7/2012	10:45	0.001	0.00106	0.0002	N/A	106	90 - 110
CCV1	Continuing Calibration	2/7/2012	11:11	0.002	0.00199	0.0002	N/A	99	80 - 120
CCV2	Continuing Calibration	2/7/2012	11:37	0.002	0.00206	0.0002	N/A	103	80 - 120
CCV3	Continuing Calibration	2/7/2012	11:44	0.002	0.00208	0.0002	N/A	104	80 - 120

Data Package ID: *hg1201354-1*

MERCURY

Method SW7471

Calibration Blanks

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Run ID: HG120207-1A1
Result Units: MG/L

Lab ID	Verification Type	Date Analyzed	Time Analyzed	Result	Reporting Limit	Flag
ICB	Initial Calibration	2/7/2012	10:48	0.0002	0.0002	U
CCB1	Continuing Calibration	2/7/2012	11:14	0.0002	0.0002	U
CCB2	Continuing Calibration	2/7/2012	11:39	0.0002	0.0002	U
CCB3	Continuing Calibration	2/7/2012	11:46	0.0002	0.0002	U

Data Package ID: *hg1201354-1*

Metals Linear Ranges

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Instrument ID: CETAC7500
Active Date: 07/19/2010
Expiration Date: 10/17/2020

CASNO	Target Analyte	Concentration (ppm)
7439-97-6	MERCURY	0.01

Mercury Run Log -- 2/7/2012

Instrument ID: CETAC7500
File Name: HG120206-1
AnalRunID: HG120207-1A1
CalibRefID: HG120207-1A1

Comment	Field ID	Lab ID	DF	Date Analyzed	Time Analyzed
		STD0	1	2/7/2012	10:30
		STD1	1	2/7/2012	10:32
		STD2	1	2/7/2012	10:35
		STD3	1	2/7/2012	10:37
		STD4	1	2/7/2012	10:39
		STD5	1	2/7/2012	10:41
		STD6	1	2/7/2012	10:43
		ICV	1	2/7/2012	10:45
		ICB	1	2/7/2012	10:48
		CRA1	1	2/7/2012	10:50
		HG120206-1MB	1	2/7/2012	10:52
		HG120206-1LCS	1	2/7/2012	10:54
	JM-54-31-120128	1201354-1	1	2/7/2012	10:56
	JM-55-31-120128	1201354-2	1	2/7/2012	10:58
	JM-65-31-120128	1201354-3	1	2/7/2012	11:00
	JM-66-31-120128	1201354-4	1	2/7/2012	11:02
	JM-70-31-120128	1201354-5	1	2/7/2012	11:05
	JM-70-32-120128	1201354-6	1	2/7/2012	11:07
	JM-73-31-120128	1201354-7	1	2/7/2012	11:09
		CCV1	1	2/7/2012	11:11
		CCB1	1	2/7/2012	11:14
	JM-77-31-120128	1201354-8	1	2/7/2012	11:16
	JM-82-31-120128	1201354-9	1	2/7/2012	11:18
	JM-84-31-120128	1201354-10	1	2/7/2012	11:20
	JM-88-31-120128	1201354-11	1	2/7/2012	11:22
	JMBKGD-NE-31-120128	1201354-12	1	2/7/2012	11:24
	JMBKGD-NW-31-120128	1201354-13	1	2/7/2012	11:26
	JMBKGD-NW-31-120128	1201354-13DUP	1	2/7/2012	11:29
		1201354-13L	5	2/7/2012	11:31
	JMBKGD-NW-31-120128	1201354-13MS	1	2/7/2012	11:33
	JMBKGD-NW-31-120128	1201354-13MSD	1	2/7/2012	11:35
		CCV2	1	2/7/2012	11:37
		CCB2	1	2/7/2012	11:39
		CRA2	1	2/7/2012	11:41
		CCV3	1	2/7/2012	11:44

Data Package ID: HG1201354-1

Mercury Run Log -- 2/7/2012

Instrument ID: CETAC7500
File Name: HG120206-1
AnalRunID: HG120207-1A1
CalibRefID: HG120207-1A1

Comment	Field ID	Lab ID	DF	Date Analyzed	Time Analyzed
		CCB3	1	2/7/2012	11:46

Data Package ID: HG1201354-1

Raw Data

HEADER INFORMATION FOR ANALYTICAL SEQUENCE 120202A
Analyst: Michael Lundgreen

STANDARD SOLUTION CODES

Stock A (ST111115-1) Exp.6-30-2012

Element	ug/ml
Al, Ca, Mg	1000
K	500
Na	300
Fe	400
Li	20

Standard	Dilution	Procedure
A1	1/2 of Stock A	5ml of Stock A to 10ml final volume.
A2	1/2.5 of Stock A	2ml of Stock A to a 5ml final volume.
A3	1/5 of Stock A	1ml of Stock A to a 5ml final volume.
A4	1/10 of A1	1ml of Standard A1 up to a 10ml final volume.
A5	1/10 of A4	1ml of Standard A4 up to a 10ml final volume.

Stock B (ST100625-8) Exp. 2-28-15

Element	ug/ml
P, Si	100
B, Ba, Cr, Cu, Mn, Mo, Ni, Pb, Sn, Sr, Ti ,Zn	20
As, Cd, Co, Se, Tl, V	10
Sb	4
Be	2

Stock Ag- 1000 ug/ml (ST100407-4) Exp. 2-28-15
Stock Th – 1000 ug/ml (ST100407-5) Exp. 2-28-15

The following dilutions of Stock Ag and Stock Th are made to provide the daily calibration Standards.

Standard	Dilution	Procedure
B1	1/2 of Stock B 1/500 Ag and 1/500 Th	5ml of Stock B, 0.02ml of Stock Ag and 0.02ml of Stock Th up to a 10ml final volume.
B2	1/10 of B1	1.0ml of Standard B1 up to a 10ml final volume.
B3	1/10 of B2	1.0ml of Standard B2 up to a 10ml final volume.

Stock C (ST100625-9) Exp. 6-30-15

Element	ug/ml
S, U	100
Bi, Zr	10

Standard	Dilution	Procedure
C1	1/2 of Stock C	5ml of Stock C up to a 10ml final volume.
C2	1/10 of C1	1.0ml of Standard C1 up to a 10ml final volume.
C3	1/10 of C2	1.0ml of Standard C2 up to a 10ml final volume.

RL STD (Reporting Limit Standard) Intermediate.
(ST100301-54) Exp. 2-28-15

Element	ug/ml
K, Na	500
Ca, Mg	200
Al, U	100
B, Fe, P, S, Si	50
Li, Mo, Sn, Sr, Ti	10
Sb	8
Ni, As, Bi, Se, Tl, Zn, Zr	5
Pb	3
Ag, Ba, Co, Cr, Cu, Mn, V, Th	2
Be, Cd	1

RL STD (working standard) made daily by diluting the intermediate above 1000 fold. This working standard has concentration levels at the normal ALS-FC reporting limits for all elements except Ca, Mg and Na, K which are at 0.2ppm and 0.5ppm; this is below the normal ALS-FC reporting limit.

RL2 (working standard) made daily by diluting the intermediate above 333 fold.

Blank Solution

Double D.I. water, 3% HNO_3 and 5%HCl
Used for Std. Blank, ICB and CCB

CCV (ST111116-2) Exp. 6-20-12

Element	ug/ml
Al, Ca, Mg, K, Na	50
Fe	20
U, P, S, Si	5
B, Ba, Cr, Cu, Mn, Mo, Ni, Pb, Se, Sn, Zn, Zr	1
As, Be, Bi, Cd, Co, Li, Sb, Sr, Ti, Tl, V	0.5
Ag, Th	0.2

ICV (ST111116-2) Exp. 6-20-12
Prepared daily by diluting the CCV (described above) ½.
The 1/2 dilution is made by diluting 5ml of the CCV to a 10ml final volume.
The resulting concentrations are:

Element	ug/ml
Al, Ca, Mg, K, Na	25
Fe	10
U, P, S, Si	2.5
B, Ba, Cr, Cu, Mn, Mo, Ni, Pb, Se, Sn, Zn, Zr	0.5
As, Be, Bi, Cd, Co, Li, Sb, Sr, Ti, Tl, V	0.25
Ag, Th	0.1

CRI (ST110105-13) Exp. 6-20-12
Made By diluting
1.0ml of CRI Stock (ST110105-4) Exp. 6-20-12
to a 100ml final volume.

Element	ug/ml
Ca, Mg, K, Na	5.0
Al, B, Ba	0.4
Fe, U, P, S	0.2
Sb	0.12
Co, Si,, Sn, V, Th	0.1
Ni	0.08
Cu, Bi, Zr	0.05
Zn	0.04
Mn	0.03
Ag, Cr, Li, Mo, Sr, Ti, Tl	0.02
Be, Cd, As, Se,	0.01
Pb	0.006

ICSA (ST110105-7) Exp. 6-20-12

Element	ug/ml
Ca, Mg, Al	250
Fe	100

ICSAB (ST110105-8) Exp. 6-20-12

Element	ug/ml
Ca, Mg, Al	250
Fe	100
U	10

Sb	0.6
Ba, Be, Co, V, Cr, Cu, Mn, Bi, Zr	0.5
Ag	0.2
As, Tl	0.1
Se, Pb, Th	0.05

Pipette ID Numbers

1.0ml to 5.0ml --- M-55
0.1ml to 1.0ml --- M-61
0.01ml to 0.1ml --- M-57

Acid Lot Numbers

HCl – J35042
HNO_3 – J41037

Inter Element Correction Information

The following table summarizes spectral interferences that have been identified and for which IEC's are used. If a sample contains a concentration of an interfering element that exceeds the upper analytical range, and an affected element is being determined, it is necessary to dilute the sample to bring the interfering element into analytical range.

Interfering Element (ug/ml)	Affected Element
Al (500)	Pb
Mg (500)	Th
Fe (200)	Se, Tl, V, Pb, U
Si (50)	Zr
U (50)	Al, Cr, Cu, Bi, Pb, Mg, Se, Ag, Tl, Si
Ba (10)	Co
Cr (10)	Sb
Cu (10)	Bi
Mn (10)	Tl
Mo (10)	Al, Si, Pb,, Sb
Ti (10)	Co, Bi, Si, Sn, Tl, Pb, Zr
As (5)	Cd
V (5)	Al, Be, Tl
Zr (5)	Ag

The following table lists element concentrations (ug/ml) that no significant spectral interferences have been observed.

Element	Concentration	Element	Concentration	Element	Concentration
K	500	Se	10		
Na	500	Pb	10	Li	5
Ca	500	Zn	10	Cd	5
P	50	Sr	10	Co	5
S	50	Sn	10	Ag	2
Ni	10	Bi	5	Sb	2
B	10	Tl	5	Be	1

2X – Dilution made by diluting 2.5ml of sample up to a 5ml final volume.
3X - Dilution made by diluting 2.0ml of sample up to a 6ml final volume.
4X - Dilution made by diluting 2.0ml of sample up to a 8ml final volume.
5X - Dilution made by diluting 1.0ml of sample to a 5ml final volume.
10X - Dilution made by diluting 0.5ml of sample to a 5ml final volume.
20X – Dilution made by diluting 0.25ml of sample to a 5ml final volume.
25X – Dilution made by diluting 0.2ml of sample to a 5ml final volume.

100X – Dilution made by diluting 0.05ml of sample to a 5ml final volume.
500X – Dilution made by diluting 0.02ml of sample to a 10ml final volume.
1000X – Dilution made by diluting a 10X dilution 100X.

Analytical Spikes

1201354-1 was post spiked for all Sb, Ba, Ca, V and Zn by spiking 0.1mL ST110916-7, 0.1mL ST111116-1 onto 4.8mL sample, 5.0mL final volume.

Comments

1. Please see run log and work orders for elements of interest.

Daily Maintenance

1. Check/ Change Peristaltic pump tubing.
2. Check the torch for deposits, clean if necessary.
3. Check/ Empty drain water.

Daily Maintenance done by ______MTL_____.

Monthly Maintenance

1. Check/Clean nebulizer and spray chamber.
2. Clean air filters
3. Check/Clean entrance slit.
4. Fill water recirculating reservoir.

Monthly maintenance done by: MTL 01-09-2012.

Major problems / adjustments / repairs recorded in the ICP Maintenance Log (3716).

ICPTrace2 Run Log -- 2/2/2012

Instrument ID: ICPTrace2
File Name: 120202A.
AnalRunID: IT120202-2A1
CalibRefID: IT120202-2A1

Comment	Inst Sample Name	Lab ID	DF	Date Analyzed	Time Analyzed
	MIXBHIGH	MIXBHIGH	1	2/2/2012	14:37
	MIXAHIGH	MIXAHIGH	1	2/2/2012	14:39
	MIXCHIGH	MIXCHIGH	1	2/2/2012	14:41
	ICV	ICV	1	2/2/2012	15:07
	ICB	ICB	1	2/2/2012	15:09
	CRI	CRI1	1	2/2/2012	15:12
	ZZZ	ZZZ	1	2/2/2012	15:14
	ICSA	ICSA1	1	2/2/2012	15:18
	ICSAB	ICSAB1	1	2/2/2012	15:20
	CCV	CCV1	1	2/2/2012	15:22
	CCB	CCB1	1	2/2/2012	15:24
	CCV	CCV2	1	2/2/2012	15:26
	CCB	CCB2	1	2/2/2012	15:30
	ZZZ	ZZZ	1	2/2/2012	15:32
	IP120202-2MB	IP120202-2MB	1	2/2/2012	15:36
	IP120202-2LCS	IP120202-2LCS	1	2/2/2012	15:38
	1201354-1	1201354-1	1	2/2/2012	15:40
	1201354-1D	1201354-1DUP	1	2/2/2012	15:42
	1201354-1L 5X	1201354-1SER	5	2/2/2012	15:44
	1201354-1MS	1201354-1MS	1	2/2/2012	15:47
	1201354-1MSD	1201354-1MSD	1	2/2/2012	15:49
	1201354-2	1201354-2	1	2/2/2012	15:51
	1201354-3	1201354-3	1	2/2/2012	15:53
	CCV	CCV3	1	2/2/2012	15:55
	CCB	CCB3	1	2/2/2012	15:57
	1201354-4	1201354-4	1	2/2/2012	15:59
	1201354-5	1201354-5	1	2/2/2012	16:01
	1201354-6	1201354-6	1	2/2/2012	16:03
	1201354-7	1201354-7	1	2/2/2012	16:05
	1201354-8	1201354-8	1	2/2/2012	16:07
	1201354-9	1201354-9	1	2/2/2012	16:09
	1201354-10	1201354-10	1	2/2/2012	16:11
	1201354-11	1201354-11	1	2/2/2012	16:13
	1201354-12	1201354-12	1	2/2/2012	16:15
- Fe,Pb,Se,Tl,U,V	1201354-13	1201354-13	1	2/2/2012	16:16

Data Package ID:

ALS Environmental -- FC
LIMS Version: 6.560

Date Printed: Thursday, February 02, 2012

#Name?

ICPTrace2 Run Log -- 2/2/2012

Instrument ID: ICPTrace2
File Name: 120202A.
AnalRunID: IT120202-2A1
CalibRefID: IT120202-2A1

Comment	Inst Sample Name	Lab ID	DF	Date Analyzed	Time Analyzed
	CCV	CCV4	1	2/2/2012	16:19
	CCB	CCB4	1	2/2/2012	16:21
	EX120201-2MB	EX120201-2MB	1	2/2/2012	16:23
	EX120201-2RVS	EX120201-2	1	2/2/2012	16:25
- Na	EX120201-2LCS	EX120201-2LCS	1	2/2/2012	16:27
	1201363-11	1201363-11	1	2/2/2012	16:29
	1201363-11D	1201363-11DUP	1	2/2/2012	16:31
	1201363-11L 5X	1201363-11SER	5	2/2/2012	16:33
- Na	1201363-11MS	1201363-11MS	1	2/2/2012	16:35
- Na	1201363-11MSD	1201363-11MSD	1	2/2/2012	16:38
	1201363-13	1201363-13	1	2/2/2012	16:40
	1201363-15	1201363-15	1	2/2/2012	16:42
	CCV	CCV5	1	2/2/2012	16:44
	CCB	CCB5	1	2/2/2012	16:46
	1201363-17	1201363-17	1	2/2/2012	16:48
	1201363-19	1201363-19	1	2/2/2012	16:50
	ZZZ	ZZZ	1	2/2/2012	16:52
+ Ba,Ca,Sb,V,Zn	1201354-1A	1201354-1A	1	2/2/2012	16:58
+ Fe,Pb,Se,Tl,U,V	1201354-13 5X	1201354-13	5	2/2/2012	17:00
	CRI	CRI2	1	2/2/2012	17:02
	ICSA	ICSA2	1	2/2/2012	17:04
	ICSAB	ICSAB2	1	2/2/2012	17:06
	CCV	CCV6	1	2/2/2012	17:09
	CCB	CCB6	1	2/2/2012	17:10

Data Package ID:

Sample Id1	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu
MIXBHIGH	1.97893	0.14513	4.93852	9.90246	9.79854	0.97659	0.01168	-0.07917	4.86593	4.88105	9.74914	9.91932
MIXAHIGH	0.00054	498.45885	-0.00069	0.00408	0.00002	0.00080	0.00992	496.98492	-0.00033	0.00047	0.00188	-0.00914
MIXCHIGH	L-0.01708	0.88338	-0.00768	0.00604	-0.00151	0.00338	H5.06332	-0.06714	-0.00142	0.00409	-0.00949	L-0.02929
ICV	0.10395	25.45605	0.25898	0.49657	0.52849	0.25019	0.26304	25.08494	0.25348	0.24919	0.51015	0.51211
ICB	-0.00075	0.06703	-0.00174	-0.00642	-0.00085	-0.00026	-0.00944	-0.09139	-0.00082	-0.00076	-0.00110	-0.00312
CRI	0.01983	0.50031	0.00592	0.39777	0.41268	0.01170	0.04537	5.12590	0.01151	0.10126	0.02158	0.04745
ZZZ	-0.00122	262.45901	0.00004	-0.00716	-0.00085	0.00039	0.00233	260.73861	-0.00037	0.00039	-0.00121	-0.00666
ICSA	-0.00004	262.69471	0.00009	-0.00665	-0.00054	0.00049	-0.00208	262.88254	0.00007	0.00101	-0.00082	-0.00577
ICSAB	0.20190	212.65836	0.10176	1.01811	0.55218	0.48457	0.54482	262.05421	1.00190	0.48563	0.49214	0.55122
CCV	0.20828	51.62534	0.51697	0.99616	1.06520	0.48841	0.52814	50.49756	0.50741	0.49366	1.01075	1.04176
CCB	-0.00019	0.10845	-0.00546	-0.00583	-0.00057	-0.00007	-0.00804	-0.05529	-0.00022	-0.00060	0.00003	-0.00265
CCV	0.20899	51.50836	0.51264	0.98842	1.06226	0.48578	0.52882	50.16837	0.50502	0.49238	1.00628	1.03562
CCB	-0.00066	0.11335	-0.00191	-0.00554	-0.00064	0.00000	-0.00071	-0.05360	-0.00038	-0.00122	0.00022	-0.00241
ZZZ	0.00008	0.07695	-0.00540	-0.00665	-0.00067	-0.00031	-0.00501	-0.07484	-0.00022	-0.00216	-0.00044	-0.00130
IP120202-2MB	-0.00114	0.07859	-0.00113	-0.00372	-0.00085	-0.00029	-0.00804	-0.07108	-0.00025	-0.00155	-0.00083	-0.00153
IP120202-2LCS	0.09343	2.17815	1.90412	0.46055	2.07984	0.04742	-0.00737	37.15536	0.04972	0.47559	0.19461	0.25712
1201354-1	-0.00214	59.68540	0.05881	0.51640	3.00603	0.00472	-0.00245	86.18621	0.00055	0.03531	0.04517	0.06649
1201354-1D	-0.00096	55.38178	0.05354	0.16515	1.38006	0.00441	-0.00251	72.48209	0.00088	0.03245	0.04213	0.06083
1201354-1L 5X	-0.00114	11.57762	0.01314	0.08247	0.51227	0.00080	-0.00176	17.12909	-0.00071	0.00620	0.00854	0.00962
1201354-1MS	0.09575	88.95425	1.97393	0.37462	3.37275	0.05360	0.00698	111.61500	0.05245	0.51779	0.25688	0.33664
1201354-1MSD	0.09669	91.20298	1.97349	0.37203	3.44656	0.05345	-0.00378	116.34026	0.05210	0.51563	0.25709	0.34045
1201354-2	-0.00173	41.89574	0.09327	0.00715	0.89966	0.00364	-0.00465	103.76504	0.00023	0.02578	0.02817	0.04780
1201354-3	-0.00136	37.26261	0.10159	0.00833	1.08548	0.00370	-0.00286	97.26111	0.00056	0.01990	0.02432	0.06035
CCV	0.20970	51.75839	0.51797	1.00038	1.07279	0.48573	0.53445	50.35484	0.50773	0.49290	1.00646	1.05086
CCB	-0.00045	0.15194	-0.00068	-0.00235	-0.00012	0.00004	-0.00735	-0.04514	-0.00032	-0.00109	-0.00034	-0.00275
1201354-4	-0.00112	29.38481	0.03816	0.00896	0.58394	0.00258	-0.00016	109.84791	0.00021	0.03253	0.02229	0.02808
1201354-5	-0.00168	36.16084	0.12019	0.01074	1.53983	0.00349	-0.00416	85.58398	0.00069	0.02539	0.03172	0.04708
1201354-6	-0.00093	34.02753	0.05220	0.00900	1.49344	0.00302	-0.00141	124.83243	0.00020	0.02627	0.02604	0.04003
1201354-7	-0.00061	40.02791	0.07790	0.00985	1.17901	0.00338	0.00008	296.90769	0.00060	0.02983	0.03338	0.04832
1201354-8	-0.00172	51.88546	0.06896	0.01673	0.72199	0.00480	-0.00204	80.24279	0.00037	0.04656	0.04664	0.07871
1201354-9	-0.00202	43.99332	0.09638	0.00981	0.73184	0.00398	-0.00657	149.69363	0.00021	0.02992	0.03514	0.04580
1201354-10	-0.00186	66.99448	0.04860	0.01765	0.77472	0.00572	0.00134	136.54269	0.00064	0.05905	0.06213	0.11146
1201354-11	-0.00123	47.67139	0.16730	0.01003	0.73641	0.00433	-0.00358	72.07532	0.00064	0.03859	0.03419	0.07304
1201354-12	-0.00075	27.64569	0.01691	0.00689	0.47093	0.00245	0.00063	9.95291	0.00039	0.02058	0.03252	0.03245
1201354-13	-0.00140	57.38864	0.06569	0.01436	0.98240	0.00602	0.00894	43.22886	0.00089	0.06542	0.06991	0.09269
CCV	0.21214	52.15701	0.52957	1.00960	1.08041	0.48967	0.53811	50.41700	0.50851	0.49459	1.00907	1.06340
CCB	-0.00024	0.15675	-0.00124	-0.00257	-0.00047	0.00009	-0.00757	-0.05191	-0.00059	-0.00068	0.00067	-0.00279
EX120201-2MB	-0.00029	0.11454	-0.00157	0.00767	-0.00005	-0.00007	-0.01258	-0.06582	-0.00080	-0.00146	-0.00115	-0.00368
EX120201-2RVS	0.00979	1.07935	0.04482	0.04490	0.04989	0.00949	0.08959	4.71540	0.01918	0.01786	0.04830	0.04655
EX120201-2LCS	0.09835	2.36153	1.98087	0.49362	2.14647	0.04827	-0.00571	38.53287	0.05181	0.48814	0.19978	0.26726
1201363-11	-0.00065	1.81317	-0.00052	0.00963	0.08636	0.00003	-0.00770	21.90140	-0.00028	0.00101	0.00094	-0.00143
1201363-11D	-0.00011	1.83915	-0.00307	0.01055	0.08748	0.00004	-0.00525	22.16942	-0.00013	0.00097	0.00093	-0.00151
1201363-11L 5X	-0.00065	0.40095	0.00231	-0.00098	0.01587	-0.00015	-0.00255	4.33366	-0.00035	-0.00060	-0.00003	-0.00349
1201363-11MS	0.09848	4.77362	1.96711	0.49754	2.20641	0.04828	-0.00653	60.92967	0.05192	0.48830	0.19964	0.26539
1201363-11MSD	0.09990	4.86229	1.99224	0.50331	2.22266	0.04895	-0.00254	61.49041	0.05231	0.49354	0.20173	0.26919
1201363-13	-0.00078	1.44678	-0.00196	0.01288	0.08751	0.00001	-0.00319	20.85125	-0.00038	0.00125	0.00029	-0.00166
1201363-15	-0.00029	1.45821	0.00037	0.01373	0.09093	0.00004	-0.00713	23.40378	0.00003	0.00235	0.00031	-0.00071
CCV	0.21137	51.72776	0.52896	1.00130	1.06251	0.49108	0.53234	50.90274	0.51250	0.49738	1.01561	1.04638
CCB	-0.00035	0.15358	-0.00168	-0.00246	-0.00012	0.00010	-0.00513	-0.04138	-0.00033	-0.00035	0.00027	-0.00337
1201363-17	-0.00019	1.48104	0.00143	0.00822	0.08532	0.00015	-0.00772	19.14651	-0.00028	0.00170	0.00065	-0.00214

Sample Id1	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu
1201363-19	-0.00112	1.90664	0.00098	0.00796	0.10305	0.00021	-0.01048	22.21972	0.00001	0.00169	0.00056	-0.00113
ZZZ	0.02033	0.56809	0.01241	0.40477	0.41739	0.01177	0.04654	5.08272	0.01172	0.10069	0.02161	0.04829
1201354-1A	-0.00179	60.61438	2.03713	0.98998	5.02961	0.05279	-0.00038	121.83159	0.05355	0.52156	0.24110	0.33623
1201354-13 5X	-0.00075	11.26272	0.01552	0.00005	0.19451	0.00120	-0.00218	8.70833	-0.00030	0.01252	0.01407	0.01479
CRI	0.02004	0.54748	0.01275	0.40291	0.41167	0.01176	0.05049	5.14646	0.01123	0.10130	0.02172	0.04788
ICSA	-0.00205	259.86068	-0.00190	-0.00516	-0.00085	0.00048	0.00406	258.97348	-0.00068	-0.00110	-0.00280	-0.00796
ICSAB	0.20257	209.33260	0.10331	1.00752	0.53809	0.47921	0.54051	261.53927	1.00569	0.48161	0.48872	0.54365
CCV	0.21255	51.54316	0.52463	1.00160	1.05587	0.48772	0.53336	50.79330	0.51056	0.49498	1.01052	1.04386
CCB	-0.00063	0.24713	-0.00029	-0.00010	0.00096	0.00090	-0.00071	0.05676	0.00054	-0.00072	0.00134	-0.00228

Sample Id1	Fe	K	Li	Mg	Mn	Mo	Na	Ni	P	Pb	Pb I	Pb II
MIXBHIGH	-0.01956	-0.46129	-0.00309	-0.03316	9.73158	9.76899	-0.11659	9.73889	49.26311	9.68846	9.77306	9.64622
MIXAHIGH	197.83967	248.60848	9.70762	498.64729	L-0.01431	0.00412	H150.66405	0.00101	0.00888	-0.00017	0.00406	-0.00228
MIXCHIGH	-0.01454	-0.50272	-0.00308	-0.19345	0.00320	-0.00107	-0.11902	-0.00023	0.01011	0.00502	L-0.02642	0.02072
ICV	10.23099	23.53209	0.22792	24.83678	0.51308	0.49914	22.88229	0.49743	2.49772	0.50875	0.50680	0.50973
ICB	-0.00875	-0.32812	-0.00338	-0.00362	-0.00047	-0.00335	-0.14006	-0.00205	-0.00775	-0.00101	L-0.00347	0.00021
CRI	0.20242	3.47105	0.01225	4.98048	0.03208	0.02023	3.66051	0.08066	0.19694	0.00738	0.00967	0.00624
ZZZ	106.53069	-0.44818	-0.00320	263.83730	0.00196	-0.00107	-0.12909	-0.00019	0.00833	-0.00132	-0.00152	-0.00121
ICSA	107.10969	-0.44797	-0.00313	264.37983	0.00202	-0.00025	-0.12819	0.00081	0.00146	-0.00038	0.00450	-0.00282
ICSAB	107.31884	-0.47265	1.08205	265.26313	0.51427	0.99291	-0.12729	0.99141	0.99502	0.04982	0.04214	0.05365
CCV	20.41254	51.54281	0.52060	50.08209	1.01288	1.00264	48.24507	1.00561	4.93310	1.00686	1.01100	1.00480
CCB	0.00577	-0.32248	-0.00332	0.03613	-0.00023	-0.00071	-0.13599	-0.00053	-0.00631	0.00026	0.00255	-0.00088
CCV	20.30082	51.36925	0.51840	49.90117	1.00853	0.98537	48.14691	0.99110	4.92777	1.00260	1.00434	1.00174
CCB	0.00616	-0.31871	-0.00328	0.03639	-0.00011	-0.00066	-0.13200	-0.00013	-0.00598	0.00039	0.00157	-0.00021
ZZZ	0.02230	-0.39882	-0.00354	-0.00074	-0.00029	-0.00107	-0.09185	-0.00019	-0.01130	-0.00060	-0.00218	0.00019
IP120202-2MB	0.02354	-0.35009	-0.00342	-0.00362	-0.00035	-0.00188	-0.08928	-0.00106	-0.00320	0.00103	-0.00126	0.00217
IP120202-2LCS	1.03963	37.64932	0.47039	36.17879	0.49521	0.96347	35.90477	0.48211	-0.00342	0.48518	0.48768	0.48393
1201354-1	118.16513	12.14933	0.07170	22.49394	1.65154	0.03491	7.31037	0.03964	2.38575	0.14431	0.14310	0.14491
1201354-1D	113.28140	9.38163	0.06311	20.77127	1.48104	0.03395	1.32763	0.03812	2.31965	0.13271	0.13464	0.13175
1201354-1L 5X	22.70725	1.51582	0.00822	4.36393	0.33172	0.00539	0.78638	0.00708	0.49137	0.02805	0.02753	0.02831
1201354-1MS	126.66725	53.69552	0.60883	63.09358	2.06439	0.98012	40.00731	0.53219	2.32570	0.62080	0.63339	0.61451
1201354-1MSD	129.57668	54.53206	0.62050	63.86007	2.12684	0.97956	40.44208	0.53531	2.35113	0.63092	0.63685	0.62796
1201354-2	93.01974	5.99850	0.05429	17.38023	1.92874	0.06993	0.26053	0.02527	1.84708	0.11833	0.11685	0.11907
1201354-3	65.78004	5.55503	0.04740	15.93042	1.43925	0.11125	0.38081	0.01880	1.57760	0.17622	0.17615	0.17625
CCV	20.33682	51.83428	0.52385	49.94543	1.00859	0.99591	48.43347	1.00738	4.94250	1.00660	1.01023	1.00478
CCB	0.01520	-0.37016	-0.00326	0.03168	0.00012	-0.00096	-0.12798	-0.00159	-0.00731	-0.00025	0.00123	-0.00098
1201354-4	57.71411	4.95518	0.03997	11.80921	1.53312	0.03278	0.62376	0.02767	1.16572	0.09074	0.09243	0.08989
1201354-5	93.46906	5.90005	0.04456	14.73216	1.33285	0.09773	0.90134	0.02730	1.63031	0.14321	0.14637	0.14163
1201354-6	68.52994	5.60927	0.04466	14.55746	1.36161	0.08538	1.14553	0.02732	1.55069	0.13173	0.13303	0.13109
1201354-7	82.73363	7.48621	0.05969	17.30087	1.85176	0.04259	0.67735	0.04412	1.84250	0.12438	0.12661	0.12327
1201354-8	110.43899	11.26300	0.06447	19.82462	1.57589	0.10342	1.03159	0.05585	2.14463	0.13405	0.13194	0.13510
1201354-9	110.08207	7.65901	0.05965	19.35296	1.86924	0.07130	0.37243	0.03712	2.06495	0.11913	0.11333	0.12203
1201354-10	140.56499	15.25504	0.08588	22.47359	1.99940	0.00971	0.68789	0.08450	2.98296	0.12428	0.12515	0.12385
1201354-11	113.49248	9.11148	0.06943	19.14179	1.94281	0.18470	0.66618	0.04315	2.11721	0.15849	0.16165	0.15692
1201354-12	71.49818	7.03802	0.02038	8.90327	1.15399	0.00198	0.04174	0.03714	1.50302	0.05931	0.06215	0.05790
1201354-13	H265.51909	21.55162	0.06054	26.28049	2.56707	0.00122	1.22304	0.07194	4.02540	0.10372	0.10182	0.10466
CCV	20.38721	52.00740	0.52634	50.37312	1.01121	1.00019	48.67172	1.00630	5.00277	1.00748	1.01271	1.00487
CCB	0.01852	-0.38459	-0.00331	0.03011	0.00006	0.00071	-0.13252	-0.00088	-0.00520	0.00011	0.00252	-0.00110
EX120201-2MB	-0.01199	-0.40509	-0.00353	-0.00179	-0.00065	-0.00300	140.91809	-0.00086	-0.00243	0.00058	-0.00007	0.00091
EX120201-2RVS	0.96397	7.54729	0.03438	4.67182	0.04824	0.09783	7.69196	0.04788	0.92386	0.04780	0.04796	0.04772
EX120201-2LCS	1.00738	50.14414	0.58478	37.31692	0.50246	0.99688	H173.31705	0.50139	-0.00409	0.48969	0.49808	0.48550
1201363-11	1.16681	1.06626	-0.00025	9.56765	0.38545	-0.00152	129.23173	0.00115	0.06079	0.00352	0.00063	0.00496
1201363-11D	1.17712	1.09907	-0.00025	9.68077	0.38972	-0.00051	130.27098	0.00136	0.05802	0.00186	0.00283	0.00137
1201363-11L 5X	0.22252	-0.12547	-0.00273	1.88587	0.07701	-0.00259	25.60423	0.00010	0.00389	0.00190	0.00551	0.00010
1201363-11MS	2.30849	50.55749	0.57809	47.03498	0.88563	0.98680	H162.02296	0.49765	0.06345	0.49452	0.50002	0.49177
1201363-11MSD	2.34105	50.89000	0.58258	47.53647	0.89664	0.99464	H163.05815	0.49988	0.06734	0.50042	0.50154	0.49987
1201363-13	0.93894	0.93227	-0.00040	9.24108	0.39019	-0.00020	135.31625	0.00113	0.03983	0.00289	-0.00083	0.00475
1201363-15	0.94870	1.10973	-0.00017	9.48379	0.37447	-0.00198	129.67362	0.00227	0.05170	0.00410	0.00344	0.00444
CCV	20.33856	51.38540	0.51709	50.23099	1.01347	1.00722	47.89112	1.00415	4.96878	1.00824	1.01485	1.00494
CCB	0.01574	-0.29508	-0.00307	0.03325	0.00030	-0.00046	-0.08165	-0.00132	-0.00819	-0.00131	0.00037	-0.00215
1201363-17	0.91987	0.85806	-0.00077	7.65749	0.28150	-0.00228	133.57086	0.00152	0.04216	0.00494	0.00254	0.00614

Sample Id1	Fe	K	Li	Mg	Mn	Mo	Na	Ni	P	Pb	Pb I	Pb II
1201363-19	1.89042	1.04431	-0.00033	9.94253	0.34879	-0.00112	135.50311	0.00284	0.06357	0.00478	0.00457	0.00488
ZZZ	0.20025	3.41739	0.01239	4.96271	0.03155	0.02002	3.72482	0.08305	0.20060	0.00530	0.00614	0.00487
1201354-1A	111.32388	54.77640	0.60765	59.07959	2.04918	1.02408	46.71107	0.53969	2.22591	0.62750	0.63294	0.62479
1201354-13 5X	51.27429	3.16785	0.00701	5.20760	0.52050	-0.00152	0.08553	0.01395	0.82924	0.02111	0.02071	0.02130
CRI	0.20551	3.49277	0.01239	4.96402	0.03196	0.01987	3.68506	0.08247	0.19816	0.00809	0.00936	0.00746
ICSA	104.39097	-0.41178	-0.00304	261.74505	0.00095	-0.00503	-0.12095	-0.00171	-0.00342	-0.00069	L-0.00879	0.00336
ICSAB	105.28281	-0.36096	1.04998	262.55631	0.50590	0.98247	-0.11289	0.98173	0.98366	0.05165	0.04801	0.05347
CCV	20.26674	51.02168	0.51222	50.13676	1.00716	1.00325	47.75746	1.00305	4.92505	1.00332	1.01026	0.99986
CCB	0.05668	-0.27835	-0.00279	0.13339	0.00149	0.00071	-0.07157	0.00038	0.00256	0.00056	0.00213	-0.00022

Sample Id1	S	Sb	Se	Se I	Se II	Si	Sn	Sr	Ti	Tl	U	V
MIXBHIGH	-0.01727	1.94621	4.95263	4.96120	4.94836	49.65806	9.85562	9.78627	9.78448	4.92611	-0.07317	4.88935
MIXAHIGH	-0.00012	0.00201	-0.01189	L-0.04481	0.00455	0.00009	-0.00284	0.00772	-0.00087	0.01595	0.17302	L-0.01973
MIXCHIGH	H50.76693	0.00215	0.00416	0.01238	0.00005	L-0.05429	0.02126	-0.00240	0.00547	0.00393	H51.10719	-0.00940
ICV	2.57669	0.24600	0.50986	0.50992	0.50983	2.57927	0.52124	0.25853	0.25059	0.26567	2.55050	0.25074
ICB	-0.02507	-0.00257	-0.00269	-0.00343	-0.00231	-0.02268	-0.00328	-0.00414	-0.00211	-0.00683	-0.04208	-0.00092
CRI	0.20261	0.12026	0.00980	0.01115	0.00912	0.09994	0.09885	0.01790	0.01987	0.02424	0.18753	0.10360
ZZZ	0.04667	-0.00269	-0.00761	L-0.01948	-0.00168	-0.02603	-0.00087	-0.00253	-0.00050	0.00603	0.04692	L-0.01081
ICSA	0.04355	0.00062	-0.00484	L-0.01863	0.00205	-0.02193	0.00395	-0.00233	-0.00021	0.01346	0.06453	-0.00907
ICSAB	1.08379	0.58525	0.05141	0.04131	0.05646	1.01668	1.03344	1.07776	0.99088	0.10665	10.78807	0.49509
CCV	5.17042	0.49542	1.01675	1.01709	1.01659	5.11285	1.02721	0.52651	0.49638	0.52020	5.14036	0.49918
CCB	-0.01571	-0.00085	0.00061	-0.00335	0.00259	-0.01808	-0.00372	-0.00395	-0.00195	0.00245	-0.03063	0.00019
CCV	5.12827	0.48911	1.00367	1.00587	1.00258	5.09766	1.02391	0.52385	0.49532	0.51729	5.14426	0.49698
CCB	-0.01727	-0.00184	0.00064	0.00054	0.00070	-0.02095	-0.00350	-0.00391	-0.00228	0.00049	-0.02790	-0.00089
ZZZ	-0.02351	-0.00118	-0.00353	L-0.00537	-0.00261	-0.02184	-0.00328	-0.00409	-0.00349	L-0.01002	-0.04155	-0.00070
IP120202-2MB	-0.02819	-0.00276	-0.00217	-0.00070	-0.00291	-0.02266	0.00483	-0.00212	-0.00282	-0.00402	-0.05356	-0.00148
IP120202-2LCS	-0.00636	0.45571	1.79012	1.80484	1.78277	1.76998	0.49244	0.53687	0.48314	1.97952	-0.05480	0.48860
1201354-1	5.90258	0.00131	0.09880	0.07633	0.11001	1.52412	0.00246	0.39028	0.15470	0.01901	0.36971	0.80588
1201354-1D	7.09550	0.00114	0.13708	0.12364	0.14380	1.48955	0.00708	0.32460	0.13638	0.01582	0.35066	0.80777
1201354-1L 5X	1.16958	-0.00037	0.01796	0.01147	0.02121	0.29242	-0.00003	0.07419	0.02918	0.00490	0.04342	0.16227
1201354-1MS	6.06807	0.25596	1.89367	1.89497	1.89302	14.10500	0.51158	0.89125	0.63018	1.99872	0.42669	1.51114
1201354-1MSD	6.06651	0.25781	1.89146	1.87913	1.89761	12.95746	0.50129	0.91471	0.60741	1.98390	0.36576	1.56451
1201354-2	4.36188	0.00180	0.24194	0.23169	0.24706	5.21768	0.00567	0.44976	0.22354	0.01558	1.44235	0.95079
1201354-3	4.83793	0.00034	0.51941	0.51757	0.52032	12.19408	0.00354	0.44155	0.35636	0.00939	4.05912	1.64990
CCV	5.16417	0.49422	1.01456	1.01426	1.01471	5.11179	1.02699	0.53185	0.49336	0.52261	5.17754	0.49876
CCB	-0.01571	-0.00257	0.00023	-0.00062	0.00066	-0.01644	-0.00262	-0.00185	-0.00195	0.00228	-0.04864	-0.00003
1201354-4	4.38685	-0.00243	0.13288	0.12882	0.13491	12.02386	0.00096	0.25984	0.31244	0.00887	0.37540	0.65806
1201354-5	5.00027	0.00387	0.38477	0.37889	0.38771	14.29376	0.00332	0.39893	0.35889	0.00877	2.34099	1.11381
1201354-6	4.14026	-0.00151	0.38548	0.37577	0.39033	11.97568	0.00139	0.41809	0.32222	0.00774	2.53810	1.03584
1201354-7	4.60224	-0.00043	0.29713	0.28396	0.30370	16.14467	-0.00038	0.49252	0.52275	0.01169	1.35330	0.84976
1201354-8	10.02901	0.00257	0.14450	0.12662	0.15343	13.55458	0.00173	0.61106	0.40702	0.01685	2.68260	0.54307
1201354-9	4.50079	0.00028	0.23923	0.21543	0.25112	7.42973	-0.00036	0.40838	0.31887	0.00942	1.44547	1.53649
1201354-10	5.85886	-0.00076	0.01289	L-0.01032	0.02447	14.37359	0.00277	0.44338	0.44928	0.01637	0.28242	0.21588
1201354-11	7.94507	0.00261	0.64914	0.63917	0.65412	8.61056	0.00974	0.36436	0.30118	0.02437	2.94798	1.35773
1201354-12	2.30678	-0.00024	0.00743	-0.00136	0.01182	4.72460	0.00180	0.07445	0.34804	0.01538	0.01947	0.08153
1201354-13	18.05717	0.00267	-0.00160	L-0.04102	0.01808	4.52670	0.00342	0.38661	0.26763	0.03470	0.13131	0.18420
CCV	5.21881	0.49993	1.01266	1.02164	1.00818	5.16634	1.04060	0.53551	0.49730	0.52540	5.20480	0.49980
CCB	-0.02039	-0.00124	-0.00123	0.00041	-0.00205	-0.01649	-0.00459	-0.00186	-0.00228	0.00331	-0.01317	-0.00011
EX120201-2MB	-0.01883	-0.00231	0.00138	-0.00087	0.00250	0.00239	0.00155	-0.00207	-0.00258	0.00177	-0.02734	-0.00117
EX120201-2RVS	0.95121	0.09083	0.04468	0.04704	0.04351	0.25124	0.09422	0.04784	0.04445	0.09910	0.46807	0.04850
EX120201-2LCS	-0.00636	0.47950	1.92059	1.94196	1.90992	2.02627	0.51636	0.53668	0.48698	2.06626	-0.05095	0.50203
1201363-11	0.17766	-0.00126	0.00213	-0.00202	0.00420	3.67740	-0.00115	0.07725	0.05491	-0.00012	-0.03960	0.00144
1201363-11D	0.17298	-0.00304	0.00124	0.00315	0.00029	3.73159	-0.00159	0.07770	0.05687	-0.00252	-0.02051	0.00190
1201363-11L 5X	0.02327	-0.00311	0.00171	0.00056	0.00229	0.64656	-0.00263	0.01314	0.00802	0.00087	-0.03296	0.00001
1201363-11MS	0.19325	0.47068	1.91068	1.93463	1.89872	6.88495	0.51606	0.60929	0.54939	2.04263	-0.04857	0.49972
1201363-11MSD	0.20105	0.47655	1.93418	1.94166	1.93044	7.17238	0.51803	0.61459	0.55881	2.07376	-0.04531	0.50528
1201363-13	0.07629	-0.00177	0.00293	0.00116	0.00381	2.89945	-0.00465	0.06806	0.04260	0.00040	-0.04872	0.00094
1201363-15	0.13555	0.00073	0.00012	-0.00037	0.00037	2.95768	-0.00005	0.07919	0.04807	0.00394	-0.03509	0.00188
CCV	5.16261	0.49354	1.01024	1.02428	1.00323	5.13259	1.04192	0.52790	0.49547	0.53056	5.14696	0.50084
CCB	-0.00636	-0.00072	0.00028	0.00548	-0.00231	-0.01926	0.00155	-0.00183	-0.00192	0.00498	-0.03500	-0.00038
1201363-17	0.13867	-0.00153	0.00318	0.00598	0.00179	2.96442	-0.00223	0.06750	0.04322	-0.00121	-0.04762	0.00085

Sample Idl	S	Sb	Se	Se I	Se II	Si	Sn	Sr	Ti	Tl	U	V
1201363-19	0.08877	-0.00304	0.00168	-0.00074	0.00289	3.69342	-0.00006	0.07433	0.05829	0.00151	-0.03737	0.00207
ZZZ	0.20417	0.12217	0.00870	0.00520	0.01045	0.10007	0.10061	0.02025	0.01921	0.02396	0.19463	0.10280
1201354-1A	5.56536	0.47827	2.00976	2.01917	2.00506	3.46451	0.52080	0.90993	0.62908	2.06603	0.35691	1.26106
1201354-13 5X	3.77039	-0.00007	-0.00013	L-0.00758	0.00360	0.86341	-0.00027	0.07541	0.05087	0.00957	0.01305	0.03636
CRI	0.20885	0.11999	0.01203	0.01356	0.01127	0.09583	0.10521	0.01996	0.01941	0.02727	0.18262	0.10266
ICSA	0.03887	-0.00521	-0.00329	L-0.02322	0.00666	-0.03690	-0.00525	-0.00057	-0.00045	0.01365	0.01727	L-0.01109
ICSAB	1.06819	0.58275	0.04664	0.03701	0.05145	0.99508	1.02643	1.05623	0.97166	0.11223	10.53713	0.48768
CCV	5.11734	0.49655	0.99685	1.01332	0.98863	5.09488	1.03314	0.52547	0.49175	0.53494	5.09242	0.49799
CCB	-0.00480	0.00139	0.00111	0.00166	0.00084	-0.01318	0.00045	-0.00113	-0.00109	0.00669	-0.02957	0.00125

Sample Id1	Zn	Zr
MIXBHIGH	9.67701	-0.01459
MIXAHIGH	-0.00569	0.00542
MIXCHIGH	-0.00406	H5.06373
ICV	0.49217	0.50673
ICB	-0.00243	-0.00035
CRI	0.04906	0.05326
ZZZ	-0.00258	0.00283
ICSA	-0.00317	0.00359
ICSAB	0.92026	0.50099
CCV	0.96609	1.01167
CCB	-0.00317	0.00025
CCV	0.95300	1.00580
CCB	-0.00302	-0.00002
ZZZ	-0.00139	0.00006
IP120202-2MB	-0.00095	-0.00008
IP120202-2LCS	0.46454	0.00100
1201354-1	1.11956	0.05342
1201354-1D	0.52828	0.04411
1201354-1L 5X	0.19467	0.00992
1201354-1MS	0.75872	0.05626
1201354-1MSD	0.75217	0.05587
1201354-2	0.17789	0.03754
1201354-3	0.12668	0.04363
CCV	0.94868	1.01255
CCB	-0.00184	0.00010
1201354-4	0.14217	0.02934
1201354-5	0.16004	0.04294
1201354-6	0.15293	0.04257
1201354-7	0.19760	0.04630
1201354-8	0.28516	0.04977
1201354-9	0.22835	0.04428
1201354-10	0.37350	0.05629
1201354-11	0.26077	0.05443
1201354-12	0.17201	0.03208
1201354-13	0.37228	0.04313
CCV	0.96714	1.01737
CCB	-0.00242	0.00035
EX120201-2MB	-0.00257	-0.00027
EX120201-2RVS	0.04542	0.04919
EX120201-2LCS	0.48171	0.00096
1201363-11	0.12097	0.00134
1201363-11D	0.12218	0.00171
1201363-11L 5X	0.02211	-0.00009
1201363-11MS	0.60346	0.00198
1201363-11MSD	0.61150	0.00167
1201363-13	0.12703	0.00087
1201363-15	0.14278	0.00169
CCV	0.98521	1.01160
CCB	-0.00302	-0.00008
1201363-17	0.12279	0.00150

Sample Id1	Zn	Zr
1201363-19	0.15096	0.00184
ZZZ	0.04814	0.05304
1201354-1A	1.54388	0.05197
1201354-13 5X	0.07419	0.00806
CRI	0.04830	0.05223
ICSA	-0.00408	0.00188
ICSAB	0.92737	0.49244
CCV	0.97716	1.00728
CCB	-0.00015	0.00189

Method : Paragon File : 120202A Printed : 2/2/2012 17:32:41
SampleId1 : RL2 **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 13:10:19
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE3

Raw intensities

	Ag Reading	**Al** Reading	**As** Reading	**B** Reading	**Ba** Reading	**Be** Reading	**Bi** Reading	**Ca** Reading	**Cd** Reading
#1	0.114	0.246	0.212	0.341	0.033	0.718	0.165	0.256	0.125
#2	0.114	0.246	0.207	0.340	0.032	0.718	0.162	0.254	0.126
Mean	**0.114**	**0.246**	**0.210**	**0.340**	**0.033**	**0.718**	**0.163**	**0.255**	**0.125**
%RSD	0.558	0.029	1.721	0.332	0.435	0.020	1.082	0.555	0.622

	Co Reading	**Cr** Reading	**Cu** Reading	**Fe** Reading	**K** Reading	**Li** Reading	**Mg** Reading	**Mn** Reading	**Mo** Reading
#1	0.116	0.215	0.080	0.167	1.319	0.833	0.260	0.019	0.118
#2	0.116	0.213	0.080	0.165	1.304	0.834	0.258	0.019	0.117
Mean	**0.116**	**0.214**	**0.080**	**0.166**	**1.312**	**0.833**	**0.259**	**0.019**	**0.117**
%RSD	0.122	0.429	0.089	0.639	0.852	0.102	0.437	0.000	0.302

	Na Reading	**Ni** Reading	**P** Reading	**Pb I** Reading	**Pb II** Reading	**S** Reading	**Sb** Reading	**Se I** Reading	**Se II** Reading
#1	2.727	0.276	0.160	2.223	0.647	0.015	0.186	0.410	0.294
#2	2.659	0.276	0.162	2.217	0.656	0.015	0.186	0.407	0.297
Mean	**2.693**	**0.276**	**0.161**	**2.220**	**0.652**	**0.015**	**0.186**	**0.409**	**0.296**
%RSD	1.809	0.026	0.966	0.182	0.901	1.419	0.076	0.588	0.765

	Si Reading	**Sn** Reading	**Sr** Reading	**Ti** Reading	**Tl** Reading	**U** Reading	**V** Reading	**Zn** Reading	**Zr** Reading
#1	0.470	0.078	0.293	0.490	0.246	0.180	0.141	0.028	0.347
#2	0.471	0.079	0.292	0.485	0.250	0.179	0.141	0.028	0.346
Mean	**0.471**	**0.079**	**0.292**	**0.488**	**0.248**	**0.180**	**0.141**	**0.028**	**0.346**
%RSD	0.090	0.896	0.266	0.609	0.998	0.079	0.100	0.501	0.245

	Pb Reading	**Se** Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:32:42
SampleId1 : B3 **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 13:12:28
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE4

Raw intensities

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.134	0.188	0.244	0.225	0.182	1.074	0.153	0.041	0.398
#2	0.134	0.187	0.235	0.227	0.183	1.076	0.151	0.041	0.397
Mean	**0.134**	**0.188**	**0.240**	**0.226**	**0.183**	**1.075**	**0.152**	**0.041**	**0.397**
%RSD	0.106	0.301	2.626	0.626	0.581	0.138	0.836	0.519	0.125

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.169	0.449	0.159	0.048	0.669	0.098	0.105	0.098	0.186
#2	0.170	0.449	0.160	0.047	0.665	0.098	0.105	0.098	0.186
Mean	**0.169**	**0.449**	**0.160**	**0.047**	**0.667**	**0.098**	**0.105**	**0.098**	**0.186**
%RSD	0.251	0.126	0.266	0.447	0.413	0.144	0.270	0.289	0.152

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.165	0.528	0.307	2.559	0.861	0.008	0.180	0.434	0.329
#2	0.162	0.527	0.307	2.549	0.856	0.008	0.180	0.426	0.337
Mean	**0.164**	**0.527**	**0.307**	**2.554**	**0.858**	**0.008**	**0.180**	**0.430**	**0.333**
%RSD	1.426	0.067	0.023	0.266	0.395	0.868	0.118	1.184	1.655

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.692	0.093	0.671	1.017	0.281	0.144	0.221	0.058	0.251
#2	0.695	0.093	0.675	1.019	0.277	0.141	0.222	0.058	0.250
Mean	**0.693**	**0.093**	**0.673**	**1.018**	**0.279**	**0.142**	**0.221**	**0.058**	**0.251**
%RSD	0.286	0.152	0.399	0.146	0.862	1.241	0.320	0.609	0.254

	Pb	Se
	Reading	Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:32:42
SampleId1 : B2 **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 13:14:27
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE5

Raw intensities

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.424	0.192	0.684	1.639	1.657	6.462	0.153	0.041	3.051
#2	0.423	0.192	0.692	1.639	1.657	6.480	0.155	0.041	3.058
Mean	**0.424**	**0.192**	**0.688**	**1.639**	**1.657**	**6.471**	**0.154**	**0.041**	**3.055**
%RSD	0.167	0.000	0.853	0.000	0.009	0.196	1.149	0.522	0.167

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo

	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.728	2.757	0.955	0.048	0.657	0.119	0.104	0.869	1.141
#2	0.727	2.755	0.956	0.048	0.651	0.119	0.104	0.870	1.146
Mean	**0.727**	**2.756**	**0.956**	**0.048**	**0.654**	**0.119**	**0.104**	**0.869**	**1.143**
%RSD	0.078	0.038	0.111	0.589	0.595	0.178	0.136	0.073	0.328

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.135	3.293	2.342	5.979	2.889	0.008	0.347	0.775	0.871
#2	0.116	3.294	2.360	5.989	2.877	0.008	0.345	0.775	0.871
Mean	**0.126**	**3.294**	**2.351**	**5.984**	**2.883**	**0.008**	**0.346**	**0.775**	**0.871**
%RSD	11.043	0.024	0.529	0.122	0.292	0.000	0.307	0.018	0.016

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	3.980	0.305	6.475	8.391	0.733	0.141	1.081	0.388	0.251
#2	3.992	0.307	6.468	8.394	0.736	0.141	1.080	0.390	0.247
Mean	**3.986**	**0.306**	**6.471**	**8.393**	**0.734**	**0.141**	**1.081**	**0.389**	**0.249**
%RSD	0.213	0.300	0.081	0.019	0.318	0.050	0.111	0.273	0.881

	Pb	**Se**
	Reading	Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:32:42
SampleId1 : B1 **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 13:16:52
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE6

Raw intensities

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	3.380	0.236	5.142	15.661	16.221	60.057	0.199	0.046	28.683
#2	3.364	0.236	5.134	15.576	16.037	59.946	0.202	0.046	28.688
Mean	**3.372**	**0.236**	**5.138**	**15.618**	**16.129**	**60.002**	**0.201**	**0.046**	**28.685**
%RSD	0.329	0.090	0.103	0.383	0.805	0.130	0.916	0.612	0.013

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	6.312	25.820	9.168	0.064	0.647	0.104	0.112	8.364	10.617
#2	6.317	25.815	9.070	0.065	0.656	0.106	0.114	8.354	10.575
Mean	**6.315**	**25.817**	**9.119**	**0.065**	**0.652**	**0.105**	**0.113**	**8.359**	**10.596**
%RSD	0.063	0.015	0.761	1.093	0.998	1.145	0.999	0.080	0.284

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading

#1	0.118	31.029	20.957	40.504	23.168	0.011	2.023	4.232	6.157
#2	0.123	30.970	20.916	40.492	23.229	0.011	2.016	4.202	6.185
Mean	**0.120**	**31.000**	**20.936**	**40.498**	**23.199**	**0.011**	**2.020**	**4.217**	**6.171**
%RSD	2.939	0.135	0.142	0.021	0.188	0.634	0.259	0.495	0.322

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	36.705	2.414	61.704	82.421	5.330	0.153	9.722	3.633	0.284
#2	36.586	2.416	61.284	82.042	5.289	0.155	9.700	3.656	0.287
Mean	**36.645**	**2.415**	**61.494**	**82.231**	**5.310**	**0.154**	**9.711**	**3.644**	**0.286**
%RSD	0.231	0.064	0.483	0.326	0.542	0.781	0.160	0.454	0.619

	Pb	**Se**
	Reading	Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:32:42
SampleId1 : A5 **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 13:18:48
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE7

Raw intensities

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.101	0.962	0.198	0.087	0.021	0.485	0.150	1.475	0.101
#2	0.101	0.962	0.192	0.085	0.021	0.480	0.151	1.486	0.100
Mean	**0.101**	**0.962**	**0.195**	**0.086**	**0.021**	**0.482**	**0.150**	**1.480**	**0.100**
%RSD	0.070	0.059	1.959	0.987	1.334	0.674	0.424	0.492	0.705

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.106	0.194	0.073	1.369	1.479	2.142	1.137	0.013	0.088
#2	0.107	0.196	0.073	1.378	1.489	2.156	1.140	0.013	0.086
Mean	**0.106**	**0.195**	**0.073**	**1.374**	**1.484**	**2.149**	**1.138**	**0.013**	**0.087**
%RSD	0.332	0.544	0.387	0.484	0.491	0.474	0.168	1.651	1.873

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	2.163	0.223	0.083	2.202	0.639	0.009	0.162	0.397	0.277
#2	2.180	0.219	0.080	2.202	0.641	0.009	0.164	0.400	0.278
Mean	**2.171**	**0.221**	**0.082**	**2.202**	**0.640**	**0.009**	**0.163**	**0.399**	**0.278**
%RSD	0.550	1.282	2.943	0.003	0.188	0.000	1.129	0.550	0.255

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.350	0.072	0.057	0.213	0.231	0.144	0.128	0.022	0.237

#2	0.344	0.071	0.056	0.210	0.233	0.145	0.129	0.022	0.239
Mean	**0.347**	**0.071**	**0.057**	**0.211**	**0.232**	**0.144**	**0.128**	**0.022**	**0.238**
%RSD	1.265	0.594	1.876	1.138	0.579	0.538	0.055	0.000	0.653

	Pb Reading	**Se** Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:32:42
SampleId1 : A4 **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 13:20:46
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE8

Raw intensities

	Ag Reading	**Al** Reading	**As** Reading	**B** Reading	**Ba** Reading	**Be** Reading	**Bi** Reading	**Ca** Reading	**Cd** Reading
#1	0.102	7.508	0.212	0.081	0.019	0.485	0.153	13.794	0.102
#2	0.101	7.548	0.212	0.081	0.019	0.490	0.151	13.793	0.101
Mean	**0.101**	**7.528**	**0.212**	**0.081**	**0.019**	**0.487**	**0.152**	**13.793**	**0.102**
%RSD	0.907	0.375	0.300	0.000	2.626	0.609	0.605	0.008	0.278

	Co Reading	**Cr** Reading	**Cu** Reading	**Fe** Reading	**K** Reading	**Li** Reading	**Mg** Reading	**Mn** Reading	**Mo** Reading
#1	0.108	0.208	0.072	12.706	6.535	19.008	10.136	0.013	0.092
#2	0.108	0.207	0.073	12.732	6.583	19.206	10.172	0.014	0.091
Mean	**0.108**	**0.208**	**0.072**	**12.719**	**6.559**	**19.107**	**10.154**	**0.014**	**0.092**
%RSD	0.262	0.340	0.489	0.146	0.511	0.732	0.244	2.080	0.927

	Na Reading	**Ni** Reading	**P** Reading	**Pb I** Reading	**Pb II** Reading	**S** Reading	**Sb** Reading	**Se I** Reading	**Se II** Reading
#1	17.025	0.217	0.086	2.411	0.700	0.009	0.199	0.446	0.311
#2	17.193	0.216	0.088	2.398	0.704	0.009	0.198	0.446	0.313
Mean	**17.109**	**0.216**	**0.087**	**2.405**	**0.702**	**0.009**	**0.199**	**0.446**	**0.312**
%RSD	0.695	0.229	1.058	0.403	0.413	1.554	0.249	0.048	0.454

	Si Reading	**Sn** Reading	**Sr** Reading	**Ti** Reading	**Tl** Reading	**U** Reading	**V** Reading	**Zn** Reading	**Zr** Reading
#1	0.355	0.078	0.039	0.214	0.259	0.167	0.139	0.025	0.245
#2	0.357	0.079	0.041	0.217	0.254	0.166	0.138	0.025	0.243
Mean	**0.356**	**0.078**	**0.040**	**0.215**	**0.256**	**0.167**	**0.138**	**0.025**	**0.244**
%RSD	0.378	0.090	4.950	0.920	1.241	0.636	0.204	1.428	0.754

	Pb Reading	**Se** Reading
#1		
#2		

Mean	**0.000**	**0.000er: MIKE LUNDGREEN**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:32:42
SampleId1 : A3 **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 13:22:45
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE9

Raw intensities

	Ag Reading	**Al** Reading	**As** Reading	**B** Reading	**Ba** Reading	**Be** Reading	**Bi** Reading	**Ca** Reading	**Cd** Reading
#1	0.102	15.052	0.235	0.082	0.019	0.496	0.153	27.118	0.105
#2	0.103	15.045	0.231	0.083	0.020	0.496	0.154	27.181	0.107
Mean	**0.103**	**15.048**	**0.233**	**0.083**	**0.019**	**0.496**	**0.154**	**27.149**	**0.106**
%RSD	0.756	0.033	1.031	1.027	2.545	0.071	0.184	0.164	1.606

	Co Reading	**Cr** Reading	**Cu** Reading	**Fe** Reading	**K** Reading	**Li** Reading	**Mg** Reading	**Mn** Reading	**Mo** Reading
#1	0.110	0.216	0.073	24.652	13.540	42.708	20.247	0.015	0.102
#2	0.110	0.217	0.074	24.684	13.551	42.644	20.228	0.015	0.102
Mean	**0.110**	**0.217**	**0.073**	**24.668**	**13.545**	**42.676**	**20.238**	**0.015**	**0.102**
%RSD	0.386	0.490	0.773	0.090	0.056	0.107	0.064	1.861	0.070

	Na Reading	**Ni** Reading	**P** Reading	**Pb I** Reading	**Pb II** Reading	**S** Reading	**Sb** Reading	**Se I** Reading	**Se II** Reading
#1	35.856	0.222	0.093	2.638	0.776	0.010	0.238	0.501	0.350
#2	35.815	0.223	0.090	2.646	0.782	0.010	0.237	0.507	0.348
Mean	**35.836**	**0.222**	**0.091**	**2.642**	**0.779**	**0.010**	**0.238**	**0.504**	**0.349**
%RSD	0.081	0.064	2.323	0.214	0.526	2.886	0.208	0.855	0.487

	Si Reading	**Sn** Reading	**Sr** Reading	**Ti** Reading	**Tl** Reading	**U** Reading	**V** Reading	**Zn** Reading	**Zr** Reading
#1	0.368	0.087	0.049	0.228	0.285	0.183	0.147	0.029	0.256
#2	0.369	0.086	0.052	0.229	0.288	0.184	0.148	0.029	0.258
Mean	**0.369**	**0.086**	**0.050**	**0.229**	**0.287**	**0.184**	**0.148**	**0.029**	**0.257**
%RSD	0.230	0.327	3.518	0.433	0.764	0.578	0.384	0.248	0.577

	Pb Reading	**Se** Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:32:42
SampleId1 : A2 **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 13:24:45
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE10

Raw intensities17:32:43 **User: MIKE LUNDGREEN**

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.105	30.400	0.274	0.091	0.019	0.508	0.157	53.437	0.112
#2	0.104	30.329	0.273	0.090	0.020	0.512	0.158	53.289	0.113
Mean	**0.105**	**30.365**	**0.273**	**0.091**	**0.020**	**0.510**	**0.158**	**53.363**	**0.113**
%RSD	0.676	0.167	0.388	0.545	1.799	0.471	0.629	0.195	0.628

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.115	0.230	0.074	47.306	27.976	95.822	40.955	0.018	0.124
#2	0.115	0.228	0.075	47.194	27.850	95.358	40.861	0.018	0.124
Mean	**0.115**	**0.229**	**0.074**	**47.250**	**27.913**	**95.590**	**40.908**	**0.018**	**0.124**
%RSD	0.123	0.556	0.762	0.167	0.319	0.343	0.163	0.790	0.000

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	71.287	0.230	0.102	3.135	0.933	0.011	0.311	0.605	0.424
#2	71.003	0.229	0.099	3.138	0.934	0.011	0.314	0.613	0.422
Mean	**71.145**	**0.230**	**0.101**	**3.137**	**0.934**	**0.011**	**0.312**	**0.609**	**0.423**
%RSD	0.282	0.339	1.687	0.063	0.015	1.886	0.657	0.975	0.401

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.385	0.102	0.065	0.241	0.343	0.211	0.163	0.036	0.260
#2	0.386	0.102	0.067	0.243	0.349	0.210	0.164	0.037	0.260
Mean	**0.386**	**0.102**	**0.066**	**0.242**	**0.346**	**0.210**	**0.163**	**0.036**	**0.260**
%RSD	0.257	0.000	1.825	0.556	1.267	0.269	0.260	0.389	0.000

	Pb	**Se**
	Reading	Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:32:43
SampleId1 : A1 **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 13:26:50
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE11

Raw intensities

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.108	73.527	0.391	0.119	0.022	0.546	0.172	122.752	0.130
#2	0.109	73.754	0.387	0.118	0.022	0.540	0.170	123.339	0.132
Mean	**0.108**	**73.641**	**0.389**	**0.119**	**0.022**	**0.543**	**0.171**	**123.045**	**0.131**
%RSD	0.130	0.218	0.636	0.535	0.000	0.716	0.704	0.338	0.811

ted: 2/2/2012 17:32:43 User: MIKE LUNDGREEN

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.128	0.261	0.077	102.455	66.895	263.192	100.921	0.026	0.188
#2	0.129	0.263	0.077	102.791	67.146	263.662	101.065	0.026	0.187
Mean	**0.128**	**0.262**	**0.077**	**102.623**	**67.021**	**263.427**	**100.993**	**0.026**	**0.188**
%RSD	0.220	0.568	0.183	0.232	0.265	0.126	0.101	0.271	0.264

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	148.479	0.251	0.129	4.539	1.377	0.014	0.538	0.915	0.631
#2	148.948	0.252	0.127	4.570	1.376	0.014	0.538	0.921	0.634
Mean	**148.714**	**0.251**	**0.128**	**4.555**	**1.377**	**0.014**	**0.538**	**0.918**	**0.633**
%RSD	0.223	0.169	1.326	0.487	0.051	0.507	0.000	0.401	0.335

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.425	0.146	0.115	0.284	0.513	0.287	0.204	0.059	0.285
#2	0.426	0.145	0.116	0.284	0.509	0.291	0.204	0.059	0.287
Mean	**0.426**	**0.145**	**0.116**	**0.284**	**0.511**	**0.289**	**0.204**	**0.059**	**0.286**
%RSD	0.050	0.097	0.245	0.075	0.609	0.954	0.173	0.119	0.346

	Pb	Se
	Reading	Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:32:43
SampleId1 : C3 **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 13:28:46
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE12

Raw intensities

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.099	0.192	0.189	0.070	0.018	0.482	0.176	0.044	0.096
#2	0.100	0.192	0.189	0.070	0.019	0.481	0.179	0.045	0.099
Mean	**0.099**	**0.192**	**0.189**	**0.070**	**0.018**	**0.482**	**0.177**	**0.044**	**0.098**
%RSD	0.356	0.111	0.000	0.405	1.537	0.073	1.116	2.073	1.810

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.104	0.190	0.071	0.051	0.634	0.101	0.108	0.012	0.079
#2	0.105	0.190	0.072	0.051	0.637	0.102	0.108	0.012	0.078
Mean	**0.104**	**0.190**	**0.072**	**0.051**	**0.635**	**0.102**	**0.108**	**0.012**	**0.079**
%RSD	0.474	0.074	0.296	0.693	0.356	0.625	0.328	0.592	0.540

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.112	0.213	0.080	2.131	0.619	0.025	0.158	0.392	0.271
#2	0.113	0.214	0.079	2.144	0.618	0.025	0.158	0.389	0.271
Mean	**0.113**	**0.214**	**0.079**	**2.137**	**0.618**	**0.025**	**0.158**	**0.390**	**0.271**
%RSD	0.942	0.530	0.624	0.427	0.023	1.411	0.045	0.562	0.104

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.327	0.069	0.030	0.192	0.230	0.187	0.123	0.021	0.490
#2	0.328	0.069	0.031	0.194	0.229	0.187	0.123	0.021	0.495
Mean	**0.327**	**0.069**	**0.031**	**0.193**	**0.229**	**0.187**	**0.123**	**0.021**	**0.492**
%RSD	0.065	0.000	2.755	0.916	0.309	0.189	0.173	0.344	0.603

	Pb	Se
	Reading	Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:32:43
SampleId1 : C2 **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 13:30:41
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE13

Raw intensities

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.113	0.198	0.189	0.073	0.018	0.496	0.409	0.045	0.101
#2	0.112	0.199	0.190	0.073	0.018	0.498	0.407	0.045	0.098
Mean	**0.112**	**0.199**	**0.190**	**0.073**	**0.018**	**0.497**	**0.408**	**0.045**	**0.100**
%RSD	0.440	0.320	0.373	0.193	0.387	0.341	0.277	0.473	1.988

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.106	0.218	0.077	0.050	0.638	0.099	0.129	0.013	0.078
#2	0.106	0.217	0.077	0.050	0.631	0.098	0.128	0.013	0.079
Mean	**0.106**	**0.217**	**0.077**	**0.050**	**0.634**	**0.099**	**0.128**	**0.013**	**0.078**
%RSD	0.133	0.260	0.277	0.847	0.758	0.861	0.385	0.555	1.532

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.107	0.218	0.082	2.181	0.637	0.172	0.158	0.390	0.274
#2	0.106	0.215	0.083	2.169	0.635	0.173	0.157	0.386	0.272
Mean	**0.106**	**0.216**	**0.082**	**2.175**	**0.636**	**0.173**	**0.158**	**0.388**	**0.273**
%RSD	0.667	0.817	0.945	0.387	0.322	0.410	0.448	0.711	0.519

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr

	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.348	0.070	0.031	0.211	0.234	0.624	0.132	0.021	3.066
#2	0.348	0.071	0.031	0.208	0.226	0.623	0.131	0.021	3.074
Mean	**0.348**	**0.070**	**0.031**	**0.209**	**0.230**	**0.624**	**0.131**	**0.021**	**3.070**
%RSD	0.020	0.703	0.907	0.879	2.336	0.147	0.593	2.374	0.180

	Pb Reading	**Se** Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:33:11
SampleId1 : RL **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 14:23:30
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE2

Raw intensities

	Ag Reading	**Al** Reading	**As** Reading	**B** Reading	**Ba** Reading	**Be** Reading	**Bi** Reading	**Ca** Reading	**Cd** Reading
#1	0.105	0.203	0.200	0.161	0.024	0.552	0.156	0.115	0.108
#2	0.104	0.203	0.198	0.162	0.024	0.553	0.153	0.115	0.107
Mean	**0.104**	**0.203**	**0.199**	**0.161**	**0.024**	**0.552**	**0.154**	**0.115**	**0.108**
%RSD	1.017	0.035	0.712	0.263	0.293	0.013	1.053	0.246	0.394

	Co Reading	**Cr** Reading	**Cu** Reading	**Fe** Reading	**K** Reading	**Li** Reading	**Mg** Reading	**Mn** Reading	**Mo** Reading
#1	0.109	0.198	0.075	0.089	0.935	0.367	0.158	0.014	0.092
#2	0.109	0.196	0.075	0.088	0.933	0.367	0.157	0.014	0.093
Mean	**0.109**	**0.197**	**0.075**	**0.089**	**0.934**	**0.367**	**0.157**	**0.014**	**0.092**
%RSD	0.000	0.538	0.094	0.240	0.136	0.019	0.404	0.496	0.537

	Na Reading	**Ni** Reading	**P** Reading	**Pb I** Reading	**Pb II** Reading	**S** Reading	**Sb** Reading	**Se I** Reading	**Se II** Reading
#1	1.089	0.234	0.111	2.172	0.638	0.011	0.168	0.401	0.278
#2	1.091	0.235	0.109	2.177	0.630	0.011	0.169	0.392	0.280
Mean	**1.090**	**0.234**	**0.110**	**2.175**	**0.634**	**0.011**	**0.168**	**0.396**	**0.279**
%RSD	0.149	0.181	1.418	0.163	0.892	1.297	0.210	1.534	0.608

	Si Reading	**Sn** Reading	**Sr** Reading	**Ti** Reading	**Tl** Reading	**U** Reading	**V** Reading	**Zn** Reading	**Zr** Reading
#1	0.382	0.073	0.134	0.294	0.235	0.154	0.130	0.023	0.272
#2	0.382	0.072	0.134	0.293	0.236	0.153	0.129	0.023	0.271
Mean	**0.382**	**0.073**	**0.134**	**0.294**	**0.235**	**0.153**	**0.130**	**0.023**	**0.271**
%RSD	0.019	0.970	0.000	0.241	0.301	0.462	0.109	0.000	0.287

	Pb Reading	**Se** Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Method : Paragon File : 120202A Printed : 2/2/2012 17:33:11
SampleId1 : BLANK **SampleId2 :** **[STD]**
Analysis commenced : 2/2/2012 14:26:32
Di' tion ratio : 1.00000 to 1.00000 Tray : Position : TUBE1

Raw intensities

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.101	0.182	0.191	0.069	0.018	0.465	0.151	0.038	0.098
#2	0.100	0.182	0.193	0.068	0.018	0.465	0.151	0.038	0.100
Mean	**0.100**	**0.182**	**0.192**	**0.069**	**0.018**	**0.465**	**0.151**	**0.038**	**0.099**
%RSD	0.565	0.117	0.700	0.822	0.000	0.000	0.375	0.369	1.355

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.106	0.189	0.073	0.046	0.642	0.093	0.103	0.012	0.078
#2	0.106	0.189	0.073	0.045	0.645	0.093	0.104	0.012	0.080
Mean	**0.106**	**0.189**	**0.073**	**0.046**	**0.643**	**0.093**	**0.103**	**0.012**	**0.079**
%RSD	0.134	0.112	0.097	0.620	0.385	0.303	0.137	0.597	1.706

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.091	0.215	0.080	2.156	0.623	0.009	0.158	0.393	0.271
#2	0.091	0.215	0.079	2.158	0.626	0.009	0.158	0.393	0.276
Mean	**0.091**	**0.215**	**0.079**	**2.157**	**0.624**	**0.009**	**0.158**	**0.393**	**0.273**
%RSD	0.389	0.000	1.161	0.062	0.385	0.000	0.045	0.126	1.216

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
#1	0.330	0.070	0.030	0.192	0.227	0.140	0.124	0.021	0.236
#2	0.331	0.070	0.030	0.193	0.231	0.141	0.125	0.021	0.236
Mean	**0.331**	**0.070**	**0.030**	**0.193**	**0.229**	**0.141**	**0.124**	**0.021**	**0.236**
%RSD	0.150	0.304	0.711	0.441	1.081	0.452	0.909	0.687	0.030

	Pb	Se
	Reading	Reading
#1		
#2		
Mean	**0.000**	**0.000**
%RSD	0.000	0.000

Line calibration information

Analyte	Reporting name	C0	C1	C2	C3	Correlation coefficient	Low limit	High limit	Date of last regression
Ag 328.068	Ag	0.0000161	0.6619375	-0.0028144	0	1.0000	0.000	3.061	2/2/2012 14:32:08
Al 308.215	Al	0.0093256	6.8405376	0.0036255	0	0.99999	-0.007	70.617	2/2/2012 14:32:08
As 189.042/2	As	0.0051571	1.1099062	-0.000025	0	1.0000	-0.004	4.501	2/2/2012 14:32:08
B 249.678/2	B	-0.0078268	0.739431	0.0003145	0	1.0000	0.001	13.458	2/2/2012 14:32:08
Ba 493.409	Ba	-0.0009868	0.6964842	0.0008698	0	1.0000	0.000	14.1'1	2/2/2012 14:32:08
Be 313.042	Be	-0.0082434	0.016717	0.0000014	0	1.0000	0.465	60.002	2/2/2012 14:32:08
Bi 223.061	Bi	-0.0028998	2.327283	-0.0024444	0	1.0000	0.001	2.155	2/2/2012 14:32:08
Ca 317.933	Ca	-0.1079293	3.7598142	0.004273	0	1.0000	0.002	117.360	2/2/2012 14:32:08
Cd 228.502/2	Cd	-0.0010199	0.2023378	0.0003093	0	1.0000	0.002	23.847	2/2/2012 14:32:08
Co 228.616	Co	0.0004707	0.8254113	0.0001664	0	1.0000	-0.002	6.050	2/2/2012 14:32:08
Cr 267.716	Cr	-0.0006054	0.3968618	0.0000267	0	1.0000	-0.001	25.157	2/2/2012 14:32:08
Cu 324.753	Cu	-0.0306345	1.2602953	-0.0041439	0	1.0000	0.024	8.179	2/2/2012 14:32:08
Fe 259.94	Fe	-0.0157754	1.5446714	0.004334	0	1.0000	0.000	100.631	2/2/2012 14:32:09
K 766.491	K	-3.032715	4.0278127	-0.0037695	0	0.99995	0.643	67.021	2/2/2012 14:32:09
Li 670.784	Li	-0.0082956	0.0498561	-0.0000467	0	1.0000	0.093	263.427	2/2/2012 14:32:09
Mg 279.078	Mg	-0.0007409	5.2294066	-0.001206	0	1.0000	-0.001	97.819	2/2/2012 14:32:09
Mn 257.61	Mn	-0.0008232	1.1634815	0.0042841	0	1.0000	0.000	8.207	2/2/2012 14:32:09
Mo 202.03/2	Mo	-0.0022848	1.016261	0.0012422	0	1.0000	-0.001	9.727	2/2/2012 14:32:09
Na 588.995	Na	-0.2244274	0.8068045	0.0013533	0	0.99996	0.091	148.714	2/2/2012 14:32:09
Ni 231.604	Ni	-0.0030333	0.3944065	-0.0000233	0	1.0000	0.004	25.400	2/2/2012 14:32:09
P 178.287/2	P	-0.0109654	2.2178035	0.0107868	0	1.0000	-0.001	20.505	2/2/2012 14:32:09
Pb 220.351	Pb I	0.0040011	0.2709579	-0.0000003	0	1.0000	-0.022	36.893	2/2/2012 14:32:09
Pb 220.352/2	Pb II	-0.0039965	0.4643665	0.0000067	0	1.0000	0.008	21.535	2/2/2012 14:32:09
S 182.04/2	S	-0.0437811	31.1680343	0.0968129	0	1.0000	0.001	1.597	2/2/2012 14:32:09
Sb 206.836/2	Sb	-0.0024961	1.3215963	0.0064922	0	1.0000	0.000	1.504	2/2/2012 14:32:09
Se 196.021	Se I	0.0012321	1.3390715	0.0001741	0	1.0000	-0.001	3.731	2/2/2012 14:32:09
Se 196.021/2	Se II	-0.003561	0.8600969	0.0025231	0	1.0000	0.003	5.721	2/2/2012 14:32:09
Si 288.158	Si	-0.223926	1.3961002	0.0001792	0	1.0000	0.151	35.759	2/2/2012 14:32:10
Sn 189.989	Sn	0.0002272	4.3839252	0.0193457	0	1.0000	-0.001	2.258	2/2/2012 14:32:10
Sr 421.552	Sr	-0.0042254	0.1800501	0.0001571	0	1.0000	0.000	53.093	2/2/2012 14:32:10

Ti 334.941	Ti	-0.0006263	0.1261675	-0.0000041	0	1.0000	-0.012	79.472	2/2/2012 14:32:10
Tl 190.864/2	Tl	0.0079779	1.1242362	-0.0007049	0	1.0000	-0.010	4.453	2/2/2012 14:32:10
U 385.958	U	-0.019707	13.9145452	0.0045365	0	1.0000	0.000	4.574	2/2/2012 14:32:10
V 292.402	V	-0.0005423	0.5398791	-0.0001936	0	1.0000	0.001	9.293	2/2/2012 14:32:10
Zn 206.2	Zn	-0.0030234	2.9674357	0.0135178	0	1.0000	0.000	3.321	2/2/2012 14:32:10
Zr 339.198	Zr	-0.0011497	0.1836631	-0.0000531	0	1.0000	0.004	27.448	2/2/2012 14:32:10

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:51
SampleId1 : MIXBHIGH **SampleId2 :** **[CV]**
Analysis commenced : 2/2/2012 14:37:45
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE6

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	1.97131	0.14770	4.92127	9.86862	9.74414	0.97137	0.01510	-0.07936	4.84673
#2	1.98654	0.14256	4.95578	9.93630	9.85295	0.98181	0.00827	-0.07898	4.88513
Mean	**1.97893**	**0.14513**	**4.93852**	**9.90246**	**9.79854**	**0.97659**	**0.01168**	**-0.07917**	**4.86593**
%RSD	0.54433	2.50228	0.49414	0.48326	0.78516	0.75583	41.34626	0.33583	0.55799

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	4.85395	9.68320	9.88710	-0.01933	-0.46491	-0.00312	-0.03264	9.66861	9.71782
#2	4.90814	9.81508	9.95154	-0.01979	-0.45767	-0.00307	-0.03369	9.79455	9.82015
Mean	**4.88105**	**9.74914**	**9.91932**	**-0.01956**	**-0.46129**	**-0.00309**	**-0.03316**	**9.73158**	**9.76899**
%RSD	0.78502	0.95655	0.45940	1.67522	1.11003	1.14096	2.23003	0.91515	0.74065

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.11651	9.67919	49.03220	9.72013	9.57996	-0.01571	1.93890	4.94794	4.92285
#2	-0.11667	9.79858	49.49402	9.82598	9.71248	-0.01883	1.95353	4.97446	4.97386
Mean	**-0.11659**	**9.73889**	**49.26311**	**9.77306**	**9.64622**	**-0.01727**	**1.94621**	**4.96120**	**4.94836**
%RSD	0.09815	0.86687	0.66289	0.76589	0.97145	12.76887	0.53184	0.37802	0.72892

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	49.43047	9.78886	9.73944	9.72721	4.90951	-0.06444	4.85926	9.59852	-0.01432
#2	49.88565	9.92238	9.83309	9.84176	4.94273	-0.08191	4.91944	9.75551	-0.01487
Mean	**49.65806**	**9.85562**	**9.78627**	**9.78448**	**4.92612**	**-0.07317**	**4.88935**	**9.67701**	**-0.01459**
%RSD	0.64816	0.95799	0.67672	0.82785	0.47686	16.87483	0.87033	1.14717	2.64845

	Pb	**Se**
	calc	calc
#1	9.62663	4.93121
#2	9.75028	4.97406
Mean	**9.68846**	**4.95263**
%RSD	0.90240	0.61187

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:52
SampleId1 : MIXAHIGH **SampleId2 :** **[CV]**
Analysis commenced : 2/2/2012 14:39:41
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE11

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00021	498.27842	0.00364	0.00378	-0.00015	0.00079	0.00666	495.54320	-0.00056
#2	0.00087	498.63928	-0.00501	0.00437	0.00020	0.00081	0.01318	498.42664	-0.00010
Mean	**0.00054**	**498.45885**	**-0.00069**	**0.00408**	**0.00002**	**0.00080**	**0.00992**	**496.98492**	**-0.00033**
%RSD	86.75529	0.05119	893.10178	10.26200	1164.95077	1.75577	46.48830	0.41025	100.24430

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00006	0.00164	-0.01003	197.38833	248.79744	9.71879	498.26949	-0.01455	0.00381
#2	0.00089	0.00212	-0.00826	198.29100	248.41951	9.69645	499.02510	-0.01408	0.00442
Mean	**0.00047**	**0.00188**	**-0.00914**	**197.83967**	**248.60848**	**9.70762**	**498.64729**	**-0.01431**	**0.00412**
%RSD	123.48282	17.90578	13.64730	0.32263	0.10749	0.16273	0.10715	2.33829	10.47102

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	150.97374	0.00103	0.00567	-0.00253	0.00284	-0.00324	-0.00024	-0.04031	0.01043
#2	150.35435	0.00099	0.01210	0.01065	-0.00741	0.00300	0.00425	-0.04930	-0.00134
Mean	**150.66405**	**0.00101**	**0.00888**	**0.00406**	**-0.00228**	**-0.00012**	**0.00201**	**-0.04481**	**0.00455**
%RSD	0.29069	2.76307	51.19127	229.32793	317.60528	3748.14956	158.31165	14.19919	182.92235

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00191	-0.00679	0.00755	-0.00104	0.01073	0.17333	-0.01984	-0.00658	0.00515
#2	-0.00173	0.00110	0.00790	-0.00069	0.02117	0.17272	-0.01961	-0.00480	0.00568
Mean	**0.00009**	**-0.00284**	**0.00772**	**-0.00087**	**0.01595**	**0.17302**	**-0.01973**	**-0.00569**	**0.00542**
%RSD	2842.72405	196.42534	3.13273	28.77889	46.25763	0.25118	0.82058	22.11026	6.96211

	Pb	Se
	calc	calc
#1	0.00106	-0.00646
#2	-0.00140	-0.01731
Mean	**-0.00017**	**-0.01189**
%RSD	1020.80182	64.52984

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:52
SampleId1 : MIXCHIGH SampleId2 : [CV]
Analysis commenced : 2/2/2012 14:41:36
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE14

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.01644	0.89200	-0.00568	0.00578	-0.00155	0.00337	5.05429	-0.06432	-0.00159
#2	-0.01772	0.87477	-0.00968	0.00629	-0.00148	0.00339	5.07235	-0.06996	-0.00126
Mean	**-0.01708**	**0.88338**	**-0.00768**	**0.00604**	**-0.00151**	**0.00338**	**5.06332**	**-0.06714**	**-0.00142**
%RSD	5.30660	1.37911	36.79889	6.06407	3.25907	0.46158	0.25221	5.94021	16.44640

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo

	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00384	-0.00970	-0.02956	-0.01269	-0.49548	-0.00304	-0.19266	0.00308	-0.00167
#2	0.00434	-0.00928	-0.02902	-0.01639	-0.50997	-0.00312	-0.19423	0.00332	-0.00046
Mean	**0.00409**	**-0.00949**	**-0.02929**	**-0.01454**	**-0.50272**	**-0.00308**	**-0.19345**	**0.00320**	**-0.00107**
%RSD	8.58329	3.12380	1.32453	18.02936	2.03712	1.83441	0.57346	5.22937	80.95186

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.11788	-0.00082	0.00700	-0.02582	0.02156	50.74174	0.00275	0.01702	-0.00253
#2	-0.12015	0.00036	0.01321	-0.02702	0.01987	50.79213	0.00156	0.00774	0.00263
Mean	**-0.11902**	**-0.00023**	**0.01010**	**-0.02642**	**0.02072**	**50.76693**	**0.00215**	**0.01238**	**0.00005**
%RSD	1.34607	359.01994	43.45928	3.21835	5.77111	0.07020	38.90599	52.99693	7127.17614

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.05558	0.02346	-0.00241	0.00571	0.00186	51.12800	-0.01005	-0.00332	5.06532
#2	-0.05299	0.01907	-0.00239	0.00524	0.00599	51.08637	-0.00875	-0.00480	5.06214
Mean	**-0.05429**	**0.02126**	**-0.00240**	**0.00547**	**0.00393**	**51.10718**	**-0.00940**	**-0.00406**	**5.06373**
%RSD	3.36696	14.57691	0.53116	6.03245	74.41562	0.05760	9.74238	25.82854	0.04442

	Pb	**Se**
	calc	calc
#1	0.00579	0.00398
#2	0.00426	0.00433
Mean	**0.00502**	**0.00416**
%RSD	21.51811	5.99589

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:52
SampleId1 : ICV **SampleId2 :** **[CV]**
Analysis commenced : 2/2/2012 15:07:34
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD1

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.10395	25.49245	0.25459	0.49720	0.52954	0.25031	0.26164	25.09105	0.25371
#2	0.10395	25.41965	0.26336	0.49594	0.52745	0.25006	0.26443	25.07884	0.25324
Mean	**0.10395**	**25.45605**	**0.25898**	**0.49657**	**0.52849**	**0.25019**	**0.26304**	**25.08494**	**0.25348**
%RSD	0.00364	0.20221	2.39406	0.17910	0.28009	0.07238	0.74873	0.03443	0.13008

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.24874	0.51023	0.51332	10.24180	23.59254	0.22851	24.83834	0.51326	0.50107
#2	0.24964	0.51007	0.51090	10.22019	23.47166	0.22734	24.83521	0.51290	0.49720
Mean	**0.24919**	**0.51015**	**0.51211**	**10.23099**	**23.53210**	**0.22792**	**24.83678**	**0.51308**	**0.49914**
%RSD	0.25696	0.02201	0.33320	0.14939	0.36323	0.36395	0.00891	0.04908	0.54775

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm

#1	22.94115	0.49735	2.51184	0.50566	0.51185	2.58917	0.24654	0.51326	0.50647
#2	22.82343	0.49751	2.48359	0.50794	0.50761	2.56421	0.24546	0.50657	0.51319
Mean	**22.88229**	**0.49743**	**2.49772**	**0.50680**	**0.50973**	**2.57669**	**0.24600**	**0.50992**	**0.50983**
%RSD	0.36378	0.02242	0.79976	0.31878	0.58725	0.68505	0.31179	0.92801	0.93310

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	2.57920	0.52365	0.25902	0.25069	0.26657	2.55050	0.25012	0.49292	0.50742
#2	2.57933	0.51882	0.25803	0.25049	0.26477	2.55051	0.25136	0.49143	0.50604
Mean	**2.57927**	**0.52124**	**0.25853**	**0.25059**	**0.26567**	**2.55050**	**0.25074**	**0.49217**	**0.50673**
%RSD	0.00341	0.65485	0.27160	0.05695	0.48155	0.00041	0.34887	0.21349	0.19191

	Pb	**Se**
	calc	calc
#1	0.50979	0.50873
#2	0.50772	0.51099
Mean	**0.50876**	**0.50986**
%RSD	0.28670	0.31328

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:52
SampleId1 : ICB **SampleId2 :** **[CB]**
Analysis commenced : 2/2/2012 15:09:59
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD2

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00081	0.06997	-0.00468	-0.00598	-0.00085	-0.00025	-0.00991	-0.09101	-0.00085
#2	-0.00068	0.06408	0.00120	-0.00687	-0.00085	-0.00026	-0.00897	-0.09176	-0.00079
Mean	**-0.00075**	**0.06703**	**-0.00174**	**-0.00642**	**-0.00085**	**-0.00026**	**-0.00944**	**-0.09139**	**-0.00082**
%RSD	12.08577	6.22142	239.07654	9.76713	0.00000	3.32069	6.98636	0.58184	5.27599

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00068	-0.00098	-0.00311	-0.00913	-0.32561	-0.00336	-0.00231	-0.00035	-0.00432
#2	-0.00085	-0.00122	-0.00312	-0.00836	-0.33063	-0.00340	-0.00492	-0.00059	-0.00239
Mean	**-0.00076**	**-0.00110**	**-0.00312**	**-0.00875**	**-0.32812**	**-0.00338**	**-0.00362**	**-0.00047**	**-0.00335**
%RSD	15.24774	15.58501	0.18598	6.24368	1.08171	0.97735	51.11554	35.74771	40.73443

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.14070	-0.00248	-0.00986	-0.00042	0.00105	-0.02195	-0.00172	-0.00617	-0.00296
#2	-0.13942	-0.00161	-0.00564	-0.00652	-0.00062	-0.02819	-0.00343	-0.00068	-0.00167
Mean	**-0.14006**	**-0.00205**	**-0.00775**	**-0.00347**	**0.00021**	**-0.02507**	**-0.00257**	**-0.00343**	**-0.00232**
%RSD	0.64904	29.96872	38.44943	124.12172	553.42127	17.59464	46.75164	113.46069	39.40823

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.02240	-0.00372	-0.00417	-0.00204	-0.00712	-0.04590	-0.00114	-0.00154	-0.00030

#2	-0.02297	-0.00284	-0.00412	-0.00218	-0.00655	-0.03826	-0.00071	-0.00332	-0.00039
Mean	**-0.02268**	**-0.00328**	**-0.00414**	**-0.00211**	**-0.00683**	**-0.04208**	**-0.00092**	**-0.00243**	**-0.00035**
%RSD	1.75443	18.91973	0.92180	4.64933	5.86470	12.83884	33.13731	51.81269	18.72003

	Pb calc	**Se** calc
#1	0.00056	-0.00403
#2	-0.00259	-0.00134
Mean	**-0.00101**	**-0.00268**
%RSD	219.67130	70.87346

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:52
SampleId1 : CRI **SampleId2 :** **[FLEXQC]**
Analysis commenced : 2/2/2012 15:12:05
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD3

Final concentrations

	Ag ppm	**Al** ppm	**As** ppm	**B** ppm	**Ba** ppm	**Be** ppm	**Bi** ppm	**Ca** ppm	**Cd** ppm
#1	0.02020	0.49597	0.00686	0.39585	0.41108	0.01167	0.04944	5.12119	0.01150
#2	0.01946	0.50465	0.00498	0.39969	0.41429	0.01174	0.04130	5.13062	0.01151
Mean	**0.01983**	**0.50031**	**0.00592**	**0.39777**	**0.41268**	**0.01170**	**0.04537**	**5.12590**	**0.01151**
%RSD	2.62690	1.22638	22.54280	0.68384	0.54977	0.40723	12.68422	0.13007	0.07944

	Co ppm	**Cr** ppm	**Cu** ppm	**Fe** ppm	**K** ppm	**Li** ppm	**Mg** ppm	**Mn** ppm	**Mo** ppm
#1	0.10129	0.02132	0.04686	0.20242	3.47105	0.01222	4.97604	0.03208	0.01977
#2	0.10122	0.02183	0.04805	0.20242	3.47105	0.01228	4.98492	0.03208	0.02068
Mean	**0.10126**	**0.02158**	**0.04745**	**0.20242**	**3.47105**	**0.01225**	**4.98048**	**0.03208**	**0.02023**
%RSD	0.05417	1.66775	1.78174	0.00000	0.00000	0.32926	0.12616	0.00000	3.19776

	Na ppm	**Ni** ppm	**P** ppm	**Pb I** ppm	**Pb II** ppm	**S** ppm	**Sb** ppm	**Se I** ppm	**Se II** ppm
#1	3.65156	0.08015	0.19339	0.01243	0.00773	0.19949	0.12118	0.01141	0.00654
#2	3.66946	0.08117	0.20049	0.00690	0.00475	0.20573	0.11933	0.01089	0.01170
Mean	**3.66051**	**0.08066**	**0.19694**	**0.00967**	**0.00624**	**0.20261**	**0.12025**	**0.01115**	**0.00912**
%RSD	0.34580	0.89896	2.55050	40.44954	33.75654	2.17702	1.08828	3.31827	40.00886

	Si ppm	**Sn** ppm	**Sr** ppm	**Ti** ppm	**Tl** ppm	**U** ppm	**V** ppm	**Zn** ppm	**Zr** ppm
#1	0.09758	0.10104	0.01782	0.01999	0.02385	0.18098	0.10385	0.04891	0.05330
#2	0.10231	0.09666	0.01798	0.01976	0.02464	0.19408	0.10336	0.04921	0.05323
Mean	**0.09994**	**0.09885**	**0.01790**	**0.01987**	**0.02424**	**0.18753**	**0.10361**	**0.04906**	**0.05326**
%RSD	3.35212	3.13633	0.64037	0.80801	2.31884	4.93856	0.33157	0.42777	0.09867

	Pb calc	**Se** calc
#1	0.00930	0.00816
#2	0.00547	0.01143

Mean	**0.00738**	**0.00980er: MIKE LUNDGREEN**
%RSD	36.67534	23.58845

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:52
SampleId1 : ZZZ **SampleId2 :** **[FLEXQC]**
Analysis commenced : 2/2/2012 15:14:01
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD4

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00049	262.23941	0.00342	-0.00702	-0.00085	0.00037	0.00408	261.27052	-0.00036
#2	-0.00194	262.67862	-0.00335	-0.00731	-0.00085	0.00041	0.00058	260.20671	-0.00039
Mean	**-0.00122**	**262.45902**	**0.00004**	**-0.00716**	**-0.00085**	**0.00039**	**0.00233**	**260.73861**	**-0.00037**
%RSD	83.91587	0.11833	13296.05015	2.91964	0.00000	7.58691	106.12742	0.28850	6.55566

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00047	-0.00143	-0.00612	106.58110	-0.43856	-0.00317	263.52913	0.00202	-0.00096
#2	0.00031	-0.00098	-0.00720	106.48028	-0.45780	-0.00322	264.14546	0.00190	-0.00117
Mean	**0.00039**	**-0.00121**	**-0.00666**	**106.53069**	**-0.44818**	**-0.00320**	**263.83730**	**0.00196**	**-0.00107**
%RSD	30.03816	25.97269	11.42377	0.06692	3.03596	1.03286	0.16518	4.27415	13.49197

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.12871	0.00000	0.00811	0.00065	-0.00379	0.04355	-0.00064	-0.02323	-0.00210
#2	-0.12948	-0.00039	0.00855	-0.00369	0.00137	0.04978	-0.00474	-0.01573	-0.00126
Mean	**-0.12909**	**-0.00019**	**0.00833**	**-0.00152**	**-0.00121**	**0.04666**	**-0.00269**	**-0.01948**	**-0.00168**
%RSD	0.42254	144.05347	3.76543	201.29749	300.76977	9.45191	107.87977	27.24133	35.25616

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.02422	0.00286	-0.00251	-0.00044	0.00392	0.05289	-0.00985	-0.00332	0.00328
#2	-0.02783	-0.00459	-0.00255	-0.00057	0.00814	0.04095	-0.01176	-0.00184	0.00238
Mean	**-0.02603**	**-0.00087**	**-0.00253**	**-0.00050**	**0.00603**	**0.04692**	**-0.01081**	**-0.00258**	**0.00283**
%RSD	9.82952	606.97836	1.00566	17.76788	49.43739	17.99132	12.49378	40.69246	22.45748

	Pb	**Se**
	calc	calc
#1	-0.00231	-0.00914
#2	-0.00032	-0.00608
Mean	**-0.00132**	**-0.00761**
%RSD	107.10844	28.42436

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:53
SampleId1 : ICSA **SampleId2 :** **[FLEXQC]**
Analysis commenced : 2/2/2012 15:18:06
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD4

Final concentrations:**04** **User: MIKE LUNDGREEN**

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00055	262.66309	0.00209	-0.00702	-0.00071	0.00047	0.00245	263.14455	-0.00029
#2	-0.00064	262.72634	-0.00191	-0.00628	-0.00036	0.00051	-0.00662	262.62054	0.00043
Mean	**-0.00004**	**262.69471**	**0.00009**	**-0.00665**	**-0.00054**	**0.00049**	**-0.00208**	**262.88254**	**0.00007**
%RSD	2057.49548	0.01703	3087.76566	7.86759	45.93681	6.34563	307.98771	0.14095	701.84913

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00121	-0.00096	-0.00553	107.17118	-0.43814	-0.00320	264.38902	0.00202	0.00117
#2	0.00080	-0.00068	-0.00601	107.04820	-0.45780	-0.00305	264.37064	0.00202	-0.00167
Mean	**0.00101**	**-0.00082**	**-0.00577**	**107.10969**	**-0.44797**	**-0.00313**	**264.37983**	**0.00202**	**-0.00025**
%RSD	28.99039	24.10022	5.90088	0.08118	3.10341	3.28530	0.00492	0.00000	797.75032

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.12845	0.00162	-0.00431	0.00889	-0.00531	0.04043	0.00175	-0.01837	0.00120
#2	-0.12793	0.00000	0.00722	0.00012	-0.00033	0.04666	-0.00052	-0.01889	0.00289
Mean	**-0.12819**	**0.00081**	**0.00145**	**0.00450**	**-0.00282**	**0.04355**	**0.00062**	**-0.01863**	**0.00204**
%RSD	0.28367	140.79390	560.61541	137.65222	124.79584	10.12887	260.36202	1.95847	58.62095

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.02129	0.00637	-0.00239	-0.00035	0.01545	0.06558	-0.00893	-0.00362	0.00354
#2	-0.02256	0.00154	-0.00228	-0.00007	0.01146	0.06348	-0.00922	-0.00273	0.00365
Mean	**-0.02193**	**0.00395**	**-0.00233**	**-0.00021**	**0.01346**	**0.06453**	**-0.00907**	**-0.00317**	**0.00359**
%RSD	4.08615	86.24997	3.27301	92.61427	20.98939	2.30018	2.28948	19.84686	2.17323

	Pb	**Se**
	calc	calc
#1	-0.00058	-0.00532
#2	-0.00018	-0.00436
Mean	**-0.00038**	**-0.00484**
%RSD	74.25825	14.00912

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:53
SampleId1 : ICSAB **SampleId2 :** **[FLEXQC]**
Analysis commenced : 2/2/2012 15:20:04
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD5

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.20297	213.09320	0.10376	1.01963	0.55257	0.48549	0.54471	262.54889	1.00280
#2	0.20083	212.22352	0.09976	1.01659	0.55180	0.48365	0.54493	261.55952	1.00100
Mean	**0.20190**	**212.65836**	**0.10176**	**1.01811**	**0.55218**	**0.48457**	**0.54482**	**262.05421**	**1.00190**
%RSD	0.74836	0.28918	2.77652	0.21081	0.09830	0.26903	0.02729	0.26696	0.12708

ted: 2/2/2012 17:36:04 User: MIKE LUNDGREEN

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.48720	0.49328	0.55210	107.49761	-0.47370	1.08401	265.64604	0.51492	0.99719
#2	0.48406	0.49100	0.55035	107.14007	-0.47160	1.08008	264.88021	0.51361	0.98863
Mean	**0.48563**	**0.49214**	**0.55122**	**107.31884**	**-0.47265**	**1.08205**	**265.26313**	**0.51427**	**0.99291**
%RSD	0.45633	0.32678	0.22492	0.23558	0.31291	0.25682	0.20415	0.17956	0.60939

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.12742	0.99360	1.00326	0.04284	0.05766	1.07911	0.58493	0.04425	0.05822
#2	-0.12716	0.98923	0.98678	0.04143	0.04964	1.08847	0.58556	0.03837	0.05470
Mean	**-0.12729**	**0.99141**	**0.99502**	**0.04214**	**0.05365**	**1.08379**	**0.58524**	**0.04131**	**0.05646**
%RSD	0.14284	0.31215	1.17143	2.36539	10.56888	0.61058	0.07579	10.06203	4.39961

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	1.01897	1.03608	1.07948	0.99191	0.10197	10.81417	0.49728	0.92473	0.50166
#2	1.01440	1.03081	1.07604	0.98985	0.11133	10.76198	0.49290	0.91580	0.50032
Mean	**1.01668**	**1.03344**	**1.07776**	**0.99088**	**0.10665**	**10.78807**	**0.49509**	**0.92026**	**0.50099**
%RSD	0.31777	0.36054	0.22564	0.14758	6.20542	0.34208	0.62637	0.68597	0.18881

	Pb	Se
	calc	calc
#1	0.05273	0.05357
#2	0.04691	0.04926
Mean	**0.04982**	**0.05142**
%RSD	8.25837	5.91464

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:53
SampleId1 : CCV **SampleId2 :** **[CV]**
Analysis commenced : 2/2/2012 15:22:02
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD6

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.20831	51.58678	0.51963	0.99557	1.06331	0.48887	0.52081	50.56437	0.50868
#2	0.20824	51.66391	0.51431	0.99675	1.06709	0.48795	0.53548	50.43074	0.50613
Mean	**0.20828**	**51.62534**	**0.51697**	**0.99616**	**1.06520**	**0.48841**	**0.52814**	**50.49756**	**0.50741**
%RSD	0.02248	0.10565	0.72868	0.08408	0.25062	0.13322	1.96368	0.18711	0.35578

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.49408	1.01136	1.03953	20.42173	51.49804	0.52007	50.07741	1.01311	1.00299
#2	0.49325	1.01014	1.04399	20.40335	51.58758	0.52113	50.08678	1.01264	1.00228
Mean	**0.49367**	**1.01075**	**1.04176**	**20.41254**	**51.54281**	**0.52060**	**50.08209**	**1.01288**	**1.00264**
%RSD	0.11763	0.08598	0.30233	0.06365	0.12283	0.14448	0.01323	0.03325	0.05029

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	48.21462	1.00559	4.93899	1.01315	1.00405	5.17354	0.49588	1.02084	1.01650
#2	48.27552	1.00563	4.92721	1.00885	1.00554	5.16729	0.49496	1.01334	1.01667
Mean	**48.24507**	**1.00561**	**4.93310**	**1.01100**	**1.00480**	**5.17041**	**0.49542**	**1.01709**	**1.01659**
%RSD	0.08925	0.00277	0.16885	0.30055	0.10520	0.08539	0.13143	0.52143	0.01179

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	5.10970	1.02962	0.52562	0.49617	0.51408	5.14199	0.50026	0.97056	1.01135
#2	5.11600	1.02479	0.52739	0.49660	0.52632	5.13873	0.49810	0.96163	1.01199
Mean	**5.11285**	**1.02721**	**0.52651**	**0.49638**	**0.52020**	**5.14036**	**0.49918**	**0.96609**	**1.01167**
%RSD	0.08712	0.33268	0.23824	0.06109	1.66346	0.04489	0.30620	0.65352	0.04470

	Pb	Se
	calc	calc
#1	1.00708	1.01795
#2	1.00664	1.01556
Mean	**1.00686**	**1.01675**
%RSD	0.03047	0.16583

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:53
SampleId1 : CCB **SampleId2 :** **[CB]**
Analysis commenced : 2/2/2012 15:24:10
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD2

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00023	0.08311	-0.00335	-0.00605	-0.00078	-0.00015	-0.00804	-0.08499	-0.00029
#2	-0.00015	0.13380	-0.00757	-0.00561	-0.00036	0.00001	-0.00804	-0.02559	-0.00016
Mean	**-0.00019**	**0.10845**	**-0.00546**	**-0.00583**	**-0.00057**	**-0.00007**	**-0.00804**	**-0.05529**	**-0.00022**
%RSD	28.39116	33.04777	54.64105	5.37889	51.76151	166.22528	0.02060	75.97394	41.09889

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00093	-0.00012	-0.00302	-0.00635	-0.32060	-0.00338	0.00606	-0.00047	-0.00117
#2	-0.00027	0.00017	-0.00227	0.01790	-0.32436	-0.00327	0.06620	0.00001	-0.00025
Mean	**-0.00060**	**0.00003**	**-0.00265**	**0.00577**	**-0.32248**	**-0.00332**	**0.03613**	**-0.00023**	**-0.00071**
%RSD	77.97467	777.75054	19.90455	297.02095	0.82548	2.20747	117.70905	144.59595	91.14968

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.13899	-0.00055	-0.00542	0.00047	-0.00282	-0.01571	-0.00065	-0.00388	0.00315
#2	-0.13299	-0.00051	-0.00720	0.00463	0.00105	-0.01571	-0.00105	-0.00283	0.00203
Mean	**-0.13599**	**-0.00053**	**-0.00631**	**0.00255**	**-0.00088**	**-0.01571**	**-0.00085**	**-0.00335**	**0.00259**
%RSD	3.11959	5.27352	19.88915	115.56662	310.83454	0.00000	32.72258	22.16691	30.38142

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr

	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.01893	-0.00459	-0.00410	-0.00202	0.00380	-0.02189	0.00043	-0.00332	0.00014
#2	-0.01722	-0.00284	-0.00379	-0.00188	0.00111	-0.03937	-0.00005	-0.00302	0.00036
Mean	**-0.01808**	**-0.00372**	**-0.00395**	**-0.00195**	**0.00246**	**-0.03063**	**0.00019**	**-0.00317**	**0.00025**
%RSD	6.68024	33.36431	5.48576	5.04105	77.66574	40.35883	181.35118	6.61562	62.35121

	Pb	**Se**
	calc	calc
#1	-0.00172	0.00081
#2	0.00225	0.00042
Mean	**0.00026**	**0.00061**
%RSD	1071.50178	45.35781

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:53
SampleId1 : CCV **SampleId2 :** **[CV]**
Analysis commenced : 2/2/2012 15:26:08
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD6

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.20853	51.44581	0.51719	0.98846	1.06017	0.48572	0.53336	50.20496	0.50466
#2	0.20945	51.57090	0.50809	0.98839	1.06436	0.48584	0.52429	50.13178	0.50538
Mean	**0.20899**	**51.50836**	**0.51264**	**0.98842**	**1.06226**	**0.48578**	**0.52882**	**50.16837**	**0.50502**
%RSD	0.31234	0.17173	1.25534	0.00530	0.27923	0.01794	1.21194	0.10316	0.10008

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.49234	1.00739	1.03375	20.29611	51.30955	0.51754	49.85822	1.00871	0.98680
#2	0.49243	1.00517	1.03749	20.30554	51.42894	0.51926	49.94413	1.00835	0.98394
Mean	**0.49238**	**1.00628**	**1.03562**	**20.30082**	**51.36925**	**0.51840**	**49.90118**	**1.00853**	**0.98537**
%RSD	0.01251	0.15581	0.25542	0.03285	0.16434	0.23467	0.12173	0.02505	0.20468

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	48.10105	0.99147	4.92992	1.00689	1.00161	5.09861	0.48891	1.00547	0.99950
#2	48.19276	0.99072	4.92562	1.00179	1.00186	5.15793	0.48931	1.00626	1.00565
Mean	**48.14691**	**0.99110**	**4.92777**	**1.00434**	**1.00174**	**5.12827**	**0.48911**	**1.00586**	**1.00258**
%RSD	0.13469	0.05345	0.06176	0.35876	0.01754	0.81790	0.05796	0.05565	0.43378

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	5.08681	1.02435	0.52305	0.49501	0.51909	5.14972	0.49646	0.95211	1.00469
#2	5.10851	1.02347	0.52464	0.49563	0.51549	5.13880	0.49749	0.95389	1.00691
Mean	**5.09766**	**1.02391**	**0.52385**	**0.49532**	**0.51729**	**5.14426**	**0.49698**	**0.95300**	**1.00580**
%RSD	0.30095	0.06072	0.21501	0.08823	0.49190	0.15017	0.14611	0.13249	0.15545

	Pb	**Se**
	calc	calc

#1	1.00337	1.00149
#2	1.00184	1.00586
Mean	**1.00260**	**1.00367**
%RSD	0.10798	0.30759

er: MIKE LUNDGREEN

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:54
SampleId1 : CCB **SampleId2 :** **[CB]**
Analysis commenced : 2/2/2012 15:30:12
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD2

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00089	0.10960	0.00031	-0.00568	-0.00071	-0.00001	-0.00594	-0.05755	-0.00031
#2	-0.00043	0.11710	-0.00413	-0.00539	-0.00057	0.00002	0.00453	-0.04965	-0.00045
Mean	**-0.00066**	**0.11335**	**-0.00191**	**-0.00554**	**-0.00064**	**0.00000**	**-0.00071**	**-0.05360**	**-0.00038**
%RSD	49.80510	4.67781	164.67715	3.77749	15.37770	506.15948	1047.60822	10.41652	24.48559

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00043	0.00048	-0.00253	0.00400	-0.31725	-0.00329	0.03534	-0.00011	0.00036
#2	-0.00200	-0.00003	-0.00229	0.00832	-0.32018	-0.00327	0.03743	-0.00011	-0.00167
Mean	**-0.00122**	**0.00022**	**-0.00241**	**0.00616**	**-0.31871**	**-0.00328**	**0.03639**	**-0.00011**	**-0.00066**
%RSD	91.09200	163.34831	7.14470	49.65304	0.64963	0.44708	4.06480	0.00000	218.17990

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.13291	-0.00015	-0.00431	0.00239	-0.00114	-0.01883	-0.00276	0.00188	-0.00003
#2	-0.13111	-0.00011	-0.00764	0.00076	0.00072	-0.01571	-0.00092	-0.00080	0.00143
Mean	**-0.13201**	**-0.00013**	**-0.00598**	**0.00157**	**-0.00021**	**-0.01727**	**-0.00184**	**0.00054**	**0.00070**
%RSD	0.96415	20.74454	39.36850	73.30928	629.52266	12.76887	70.67653	354.16395	148.17993

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.02143	-0.00152	-0.00394	-0.00237	0.00212	-0.02735	-0.00065	-0.00332	-0.00017
#2	-0.02046	-0.00547	-0.00388	-0.00218	-0.00114	-0.02844	-0.00113	-0.00273	0.00012
Mean	**-0.02095**	**-0.00350**	**-0.00391**	**-0.00227**	**0.00049**	**-0.02790**	**-0.00089**	**-0.00302**	**-0.00003**
%RSD	3.28102	79.79591	0.97699	5.88286	469.96944	2.77397	38.44849	13.88057	818.43264

	Pb	**Se**
	calc	calc
#1	0.00004	0.00060
#2	0.00073	0.00069
Mean	**0.00038**	**0.00064**
%RSD	127.95485	9.16677

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:54
SampleId1 : ZZZ **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 15:32:10

Dilution ratio : 1.00000 to 1.00000   Tray :   Position : TUBE1

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00008	0.07821	-0.00635	-0.00635	-0.00071	-0.00032	-0.00851	-0.07484	-0.00049
#2	0.00024	0.07570	-0.00446	-0.00694	-0.00064	-0.00031	-0.00152	-0.07484	0.00004
Mean	**0.00008**	**0.07695**	**-0.00540**	**-0.00665**	**-0.00068**	**-0.00031**	**-0.00502**	**-0.07484**	**-0.00022**
%RSD	288.07250	2.31007	24.69578	6.29407	7.29238	2.67296	98.51378	0.00000	168.26089

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00216	-0.00074	-0.00203	0.02192	-0.39798	-0.00354	-0.00388	-0.00023	0.00026
#2	-0.00216	-0.00015	-0.00058	0.02269	-0.39965	-0.00354	0.00240	-0.00035	-0.00239
Mean	**-0.00216**	**-0.00044**	**-0.00130**	**0.02230**	**-0.39882**	**-0.00354**	**-0.00074**	**-0.00029**	**-0.00107**
%RSD	0.01013	94.18488	78.41259	2.44895	0.29666	0.00000	598.92542	28.78991	175.39598

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.09159	-0.00051	-0.01407	-0.00286	0.00054	-0.02819	-0.00235	-0.00765	-0.00356
#2	-0.09210	0.00012	-0.00853	-0.00151	-0.00016	-0.01883	0.00000	-0.00309	-0.00166
Mean	**-0.09185**	**-0.00019**	**-0.01130**	**-0.00218**	**0.00019**	**-0.02351**	**-0.00118**	**-0.00537**	**-0.00261**
%RSD	0.39597	230.48554	34.70108	43.69475	259.99647	28.14263	141.39336	60.00107	51.27061

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.02196	-0.00415	-0.00410	-0.00344	-0.01295	-0.04483	-0.00146	-0.00065	0.00001
#2	-0.02171	-0.00240	-0.00408	-0.00354	-0.00710	-0.03828	0.00006	-0.00213	0.00010
Mean	**-0.02184**	**-0.00328**	**-0.00409**	**-0.00349**	**-0.01002**	**-0.04155**	**-0.00070**	**-0.00139**	**0.00006**
%RSD	0.83908	37.85360	0.31133	2.04369	41.27428	11.14352	152.72125	75.41022	112.92948

	Pb	Se
	calc	calc
#1	-0.00059	-0.00492
#2	-0.00061	-0.00214
Mean	**-0.00060**	**-0.00353**
%RSD	2.29344	55.69565

Method : Paragon   File : 120202A   Printed : 2/2/2012 17:35:54
SampleId1 : IP120202-2MB   SampleId2 :   [SAMPLE]
Analysis commenced : 2/2/2012 15:36:22
Dilution ratio : 1.00000 to 1.00000   Tray :   Position : TUBE1

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00128	0.07636	0.00054	-0.00379	-0.00085	-0.00029	-0.00781	-0.07033	-0.00027
#2	-0.00099	0.08082	-0.00279	-0.00365	-0.00085	-0.00028	-0.00828	-0.07184	-0.00023

Mean	**-0.00114**	**0.07859**	**-0.00113**	**-0.00372**	**-0.00085**	**-0.00029**	**-0.00804**	**-0.07108**	**-0.00025**
%RSD	17.76446	4.01504	208.87549	2.81132	0.00000	1.23020	4.15105	1.49607	12.00951

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00134	-0.00078	-0.00167	0.02393	-0.35406	-0.00344	-0.00283	-0.00035	-0.00218
#2	-0.00175	-0.00089	-0.00140	0.02315	-0.34611	-0.00341	-0.00440	-0.00035	-0.00157
Mean	**-0.00155**	**-0.00083**	**-0.00153**	**0.02354**	**-0.35009**	**-0.00342**	**-0.00362**	**-0.00035**	**-0.00188**
%RSD	18.86697	8.80324	12.57421	2.32038	1.60528	0.64317	30.66933	0.00000	22.95563

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.08936	-0.00035	-0.00365	0.00055	0.00374	-0.02819	-0.00224	-0.00778	-0.00356
#2	-0.08919	-0.00177	-0.00276	-0.00307	0.00060	-0.02819	-0.00329	0.00639	-0.00227
Mean	**-0.08928**	**-0.00106**	**-0.00320**	**-0.00126**	**0.00217**	**-0.02819**	**-0.00276**	**-0.00070**	**-0.00291**
%RSD	0.13579	94.60101	19.58524	203.23999	102.11426	0.00000	26.90200	1436.30463	31.35218

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.02073	0.00549	-0.00214	-0.00282	-0.00738	-0.03937	-0.00151	-0.00065	0.00001
#2	-0.02459	0.00418	-0.00210	-0.00281	-0.00065	-0.06775	-0.00146	-0.00124	-0.00017
Mean	**-0.02266**	**0.00483**	**-0.00212**	**-0.00282**	**-0.00402**	**-0.05356**	**-0.00148**	**-0.00095**	**-0.00008**
%RSD	12.07498	19.24006	1.20286	0.31667	118.48454	37.46539	2.56781	44.35498	161.42009

	Pb	**Se**
	calc	calc
#1	0.00268	-0.00496
#2	-0.00062	0.00062
Mean	**0.00103**	**-0.00217**
%RSD	226.62334	181.48564

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:54
SampleId1 : IP120202-2LCS SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 15:38:14
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE2

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.09280	2.17288	1.90251	0.46106	2.07601	0.04733	-0.00901	37.01795	0.04979
#2	0.09405	2.18342	1.90573	0.46003	2.08366	0.04750	-0.00574	37.29277	0.04965
Mean	**0.09343**	**2.17815**	**1.90412**	**0.46055**	**2.07984**	**0.04742**	**-0.00737**	**37.15536**	**0.04972**
%RSD	0.94484	0.34224	0.11952	0.15903	0.26002	0.26585	31.37078	0.52300	0.20417

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.47282	0.19401	0.25652	1.03583	37.53146	0.46907	36.08522	0.49355	0.96316
#2	0.47836	0.19520	0.25772	1.04343	37.76719	0.47170	36.27235	0.49688	0.96377
Mean	**0.47559**	**0.19461**	**0.25712**	**1.03963**	**37.64932**	**0.47038**	**36.17879**	**0.49521**	**0.96347**

%RSD	0.82302	0.43073	0.32940	0.51677	0.44273	0.39553	0.36575	0.47460	0.04485

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	35.82368	0.48134	-0.00342	0.48733	0.48099	-0.00324	0.45578	1.79901	1.77620
#2	35.98586	0.48288	-0.00342	0.48803	0.48688	-0.00947	0.45564	1.81067	1.78935
Mean	**35.90477**	**0.48211**	**-0.00342**	**0.48768**	**0.48393**	**-0.00636**	**0.45571**	**1.80484**	**1.78277**
%RSD	0.31939	0.22557	0.00000	0.10136	0.86117	69.40134	0.02181	0.45690	0.52142

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	1.76293	0.49266	0.53584	0.48154	1.96976	-0.05970	0.48588	0.46201	0.00088
#2	1.77704	0.49222	0.53790	0.48474	1.98928	-0.04989	0.49133	0.46706	0.00112
Mean	**1.76998**	**0.49244**	**0.53687**	**0.48314**	**1.97952**	**-0.05480**	**0.48860**	**0.46453**	**0.00100**
%RSD	0.56372	0.06355	0.27181	0.46891	0.69739	12.66944	0.78883	0.76899	16.72419

	Pb	**Se**
	calc	calc
#1	0.48310	1.78380
#2	0.48726	1.79645
Mean	**0.48518**	**1.79012**
%RSD	0.60685	0.49976

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:54
SampleId1 : 1201354-1 **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 15:40:09
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE3

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00223	59.71556	0.06258	0.51589	3.00723	0.00473	-0.00234	86.17257	0.00070
#2	-0.00204	59.65524	0.05503	0.51692	3.00484	0.00472	-0.00257	86.19984	0.00040
Mean	**-0.00214**	**59.68540**	**0.05881**	**0.51640**	**3.00603**	**0.00472**	**-0.00245**	**86.18621**	**0.00055**
%RSD	6.34747	0.07147	9.07497	0.14183	0.05630	0.14242	6.61738	0.02237	37.57627

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.03514	0.04520	0.06650	118.19187	12.18095	0.07187	22.51038	1.65166	0.03390
#2	0.03547	0.04515	0.06649	118.13838	12.11771	0.07153	22.47750	1.65142	0.03593
Mean	**0.03531**	**0.04517**	**0.06649**	**118.16513**	**12.14933**	**0.07170**	**22.49394**	**1.65154**	**0.03491**
%RSD	0.65400	0.07217	0.01375	0.03201	0.36805	0.34192	0.10336	0.01024	4.11703

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	7.31988	0.03897	2.39348	0.14181	0.14538	5.91663	0.00243	0.07772	0.11191
#2	7.30086	0.04031	2.37802	0.14440	0.14444	5.88853	0.00020	0.07493	0.10811
Mean	**7.31037**	**0.03964**	**2.38575**	**0.14310**	**0.14491**	**5.90258**	**0.00131**	**0.07633**	**0.11001**
%RSD	0.18392	2.39197	0.45830	1.27914	0.45842	0.33665	120.31213	2.58581	2.44104

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	1.52455	0.00618	0.39036	0.15464	0.02206	0.36369	0.80613	1.11732	0.05362
#2	1.52370	-0.00127	0.39020	0.15477	0.01597	0.37574	0.80563	1.12179	0.05322
Mean	**1.52412**	**0.00246**	**0.39028**	**0.15470**	**0.01901**	**0.36971**	**0.80588**	**1.11956**	**0.05342**
%RSD	0.03940	214.36378	0.02948	0.05766	22.64736	2.30329	0.04350	0.28210	0.53456

	Pb	Se
	calc	calc
#1	0.14419	0.10053
#2	0.14443	0.09706
Mean	**0.14431**	**0.09880**
%RSD	0.11535	2.47829

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:55
SampleId1 : 1201354-1D SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 15:42:39
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE4

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00105	55.28562	0.05093	0.16422	1.37782	0.00439	-0.00192	72.21347	0.00080
#2	-0.00087	55.47794	0.05614	0.16607	1.38230	0.00442	-0.00309	72.75070	0.00096
Mean	**-0.00096**	**55.38178**	**0.05354**	**0.16515**	**1.38006**	**0.00441**	**-0.00251**	**72.48209**	**0.00088**
%RSD	13.65129	0.24554	6.89010	0.79166	0.22952	0.48386	32.80146	0.52409	13.39464

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.03199	0.04140	0.06144	112.96626	9.36851	0.06296	20.72951	1.47770	0.03593
#2	0.03291	0.04286	0.06021	113.59655	9.39475	0.06326	20.81303	1.48439	0.03196
Mean	**0.03245**	**0.04213**	**0.06083**	**113.28141**	**9.38163**	**0.06311**	**20.77127**	**1.48104**	**0.03395**
%RSD	1.99005	2.45136	1.42476	0.39343	0.19779	0.33638	0.28431	0.31928	8.25652

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	1.32470	0.03755	2.32581	0.13076	0.12996	7.08456	-0.00175	0.13380	0.13857
#2	1.33056	0.03869	2.31349	0.13852	0.13353	7.10643	0.00402	0.11348	0.14902
Mean	**1.32763**	**0.03812**	**2.31965**	**0.13464**	**0.13175**	**7.09550**	**0.00114**	**0.12364**	**0.14380**
%RSD	0.31208	2.12147	0.37561	4.07572	1.91300	0.21787	358.54606	11.61992	5.14232

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	1.48796	0.00577	0.32387	0.13615	0.01752	0.34324	0.80700	0.52561	0.04377
#2	1.49114	0.00840	0.32534	0.13661	0.01412	0.35809	0.80853	0.53096	0.04445
Mean	**1.48955**	**0.00708**	**0.32460**	**0.13638**	**0.01582**	**0.35066**	**0.80777**	**0.52828**	**0.04411**
%RSD	0.15085	26.25460	0.31877	0.24202	15.20876	2.99482	0.13344	0.71611	1.08833

	Pb	Seer: MIKE LUNDGREEN
	calc	calc
#1	0.13023	0.13698
#2	0.13519	0.13719
Mean	**0.13271**	**0.13708**
%RSD	2.64366	0.10799

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:55
SampleId1 : 1201354-1L 5X SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 15:44:53
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE5

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00078	11.56677	0.01430	0.08309	0.51000	0.00081	-0.00188	17.14923	-0.00039
#2	-0.00150	11.58847	0.01197	0.08184	0.51454	0.00079	-0.00165	17.10896	-0.00102
Mean	**-0.00114**	**11.57762**	**0.01314**	**0.08247**	**0.51227**	**0.00080**	**-0.00176**	**17.12909**	**-0.00071**
%RSD	44.67716	0.13257	12.54751	1.07796	0.62605	1.18904	9.26785	0.16623	63.31840

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00624	0.00834	0.00973	22.68907	1.52167	0.00822	4.35922	0.33184	0.00706
#2	0.00616	0.00874	0.00950	22.72542	1.50997	0.00822	4.36863	0.33160	0.00371
Mean	**0.00620**	**0.00854**	**0.00962**	**22.70725**	**1.51582**	**0.00822**	**4.36393**	**0.33172**	**0.00539**
%RSD	0.87372	3.31541	1.72747	0.11319	0.54592	0.00000	0.15246	0.05056	44.01261

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.78307	0.00722	0.49392	0.02744	0.02647	1.17582	0.00051	0.01724	0.01832
#2	0.78969	0.00695	0.48881	0.02762	0.03015	1.16334	-0.00124	0.00571	0.02409
Mean	**0.78638**	**0.00708**	**0.49136**	**0.02753**	**0.02831**	**1.16958**	**-0.00037**	**0.01147**	**0.02121**
%RSD	0.59544	2.75611	0.73568	0.46127	9.17281	0.75441	337.19521	71.06633	19.24177

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.29039	0.00282	0.07409	0.02907	0.00360	0.04670	0.16224	0.19467	0.01009
#2	0.29444	-0.00288	0.07429	0.02929	0.00620	0.04013	0.16230	0.19467	0.00974
Mean	**0.29242**	**-0.00003**	**0.07419**	**0.02918**	**0.00490**	**0.04342**	**0.16227**	**0.19467**	**0.00992**
%RSD	0.97959	15538.67552	0.18895	0.51977	37.48679	10.70598	0.02659	0.00000	2.49375

	Pb	Se
	calc	calc
#1	0.02679	0.01796
#2	0.02930	0.01797
Mean	**0.02805**	**0.01797**
%RSD	6.32566	0.03996

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:55

SampleId1 : 1201354-1MS **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 15:47:12
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE6

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.09514	89.08904	1.96955	0.37577	3.38149	0.05359	0.01095	111.42373	0.05231
#2	0.09636	88.81946	1.97832	0.37347	3.36401	0.05360	0.00300	111.80627	0.05260
Mean	**0.09575**	**88.95425**	**1.97393**	**0.37462**	**3.37275**	**0.05360**	**0.00698**	**111.61500**	**0.05245**
%RSD	0.89925	0.21429	0.31407	0.43286	0.36648	0.00630	80.50656	0.24235	0.38319

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.51734	0.25713	0.33861	126.56492	53.79988	0.61079	63.15000	2.06278	0.97977
#2	0.51824	0.25663	0.33466	126.76957	53.59116	0.60687	63.03716	2.06601	0.98048
Mean	**0.51779**	**0.25688**	**0.33664**	**126.66725**	**53.69552**	**0.60883**	**63.09358**	**2.06439**	**0.98012**
%RSD	0.12216	0.13688	0.82929	0.11424	0.27485	0.45541	0.12647	0.11082	0.05144

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	40.11078	0.53056	2.32626	0.63536	0.60959	6.02904	0.25490	1.90693	1.88241
#2	39.90385	0.53383	2.32514	0.63142	0.61943	6.10710	0.25703	1.88302	1.90362
Mean	**40.00731**	**0.53219**	**2.32570**	**0.63339**	**0.61451**	**6.06807**	**0.25596**	**1.89497**	**1.89302**
%RSD	0.36575	0.43488	0.03406	0.44074	1.13221	0.90967	0.58806	0.89233	0.79217

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	14.09943	0.51487	0.89332	0.63275	2.00513	0.44422	1.51182	0.75515	0.05667
#2	14.11056	0.50829	0.88918	0.62761	1.99231	0.40915	1.51046	0.76229	0.05585
Mean	**14.10499**	**0.51158**	**0.89125**	**0.63018**	**1.99872**	**0.42669**	**1.51114**	**0.75872**	**0.05626**
%RSD	0.05582	0.90903	0.32858	0.57741	0.45353	5.81138	0.06370	0.66529	1.04102

	Pb	Se
	calc	calc
#1	0.61817	1.89058
#2	0.62342	1.89676
Mean	**0.62080**	**1.89367**
%RSD	0.59779	0.23084

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:55
SampleId1 : 1201354-1MSD **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 15:49:29
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE7

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm

#1	0.09726	91.24915	1.96500	0.37288	3.44924	0.05350	-0.00029	116.36556	0.05245
#2	0.09612	91.15681	1.98198	0.37118	3.44388	0.05340	-0.00727	116.31496	0.05176
Mean	**0.09669**	**91.20298**	**1.97349**	**0.37203**	**3.44656**	**0.05345**	**-0.00378**	**116.34026**	**0.05210**
%RSD	0.82969	0.07159	0.60841	0.32339	0.10993	0.14355	130.60976	0.03075	0.92752

	Co ppm	**Cr** ppm	**Cu** ppm	**Fe** ppm	**K** ppm	**Li** ppm	**Mg** ppm	**Mn** ppm	**Mo** ppm
#1	0.51625	0.25741	0.34027	129.62779	54.62351	0.62170	63.87644	2.12702	0.98109
#2	0.51501	0.25677	0.34062	129.52556	54.44060	0.61931	63.84369	2.12666	0.97804
Mean	**0.51563**	**0.25709**	**0.34045**	**129.57668**	**54.53206**	**0.62050**	**63.86007**	**2.12684**	**0.97956**
%RSD	0.17055	0.17723	0.07135	0.05579	0.23718	0.27273	0.03627	0.01196	0.22060

	Na ppm	**Ni** ppm	**P** ppm	**Pb I** ppm	**Pb II** ppm	**S** ppm	**Sb** ppm	**Se I** ppm	**Se II** ppm
#1	40.49746	0.53462	2.34598	0.63543	0.63036	6.06651	0.25835	1.88407	1.88931
#2	40.38669	0.53600	2.35628	0.63826	0.62556	6.06651	0.25727	1.87419	1.90592
Mean	**40.44208**	**0.53531**	**2.35113**	**0.63685**	**0.62796**	**6.06651**	**0.25781**	**1.87913**	**1.89762**
%RSD	0.19368	0.18232	0.30999	0.31428	0.54075	0.00000	0.29458	0.37171	0.61915

	Si ppm	**Sn** ppm	**Sr** ppm	**Ti** ppm	**Tl** ppm	**U** ppm	**V** ppm	**Zn** ppm	**Zr** ppm
#1	12.88649	0.49998	0.91540	0.60796	1.98712	0.35700	1.56382	0.74979	0.05607
#2	13.02842	0.50261	0.91403	0.60687	1.98069	0.37453	1.56520	0.75455	0.05566
Mean	**12.95746**	**0.50129**	**0.91471**	**0.60742**	**1.98390**	**0.36576**	**1.56451**	**0.75217**	**0.05587**
%RSD	0.77454	0.37158	0.10534	0.12627	0.22929	3.38963	0.06242	0.44738	0.52138

	Pb calc	**Se** calc
#1	0.63205	1.88756
#2	0.62979	1.89536
Mean	**0.63092**	**1.89146**
%RSD	0.25335	0.29134

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:55
SampleId1 : 1201354-2 **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 15:51:21
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE8

Final concentrations

	Ag ppm	**Al** ppm	**As** ppm	**B** ppm	**Ba** ppm	**Be** ppm	**Bi** ppm	**Ca** ppm	**Cd** ppm
#1	-0.00167	41.80258	0.09299	0.00693	0.89725	0.00365	-0.00407	103.79595	0.00016
#2	-0.00180	41.98890	0.09355	0.00737	0.90207	0.00363	-0.00523	103.73412	0.00030
Mean	**-0.00173**	**41.89574**	**0.09327**	**0.00715**	**0.89966**	**0.00364**	**-0.00465**	**103.76504**	**0.00023**
%RSD	5.27712	0.31446	0.42072	4.38763	0.37894	0.35568	17.70839	0.04213	41.83516

	Co ppm	**Cr** ppm	**Cu** ppm	**Fe** ppm	**K** ppm	**Li** ppm	**Mg** ppm	**Mn** ppm	**Mo** ppm
#1	0.02594	0.02839	0.04792	92.95195	5.96450	0.05413	17.35177	1.92682	0.07140

#2	0.02561	0.02796	0.04768	93.08753	6.03250	0.05446	17.40869	1.93065	0.06845
Mean	**0.02577**	**0.02817**	**0.04780**	**93.01974**	**5.99850**	**0.05429**	**17.38023**	**1.92874**	**0.06993**
%RSD	0.89288	1.08538	0.34564	0.10306	0.80154	0.42487	0.23155	0.14047	2.98071

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.26113	0.02442	1.84619	0.12034	0.12031	4.35876	0.00379	0.22983	0.24860
#2	0.25993	0.02611	1.84797	0.11335	0.11782	4.36500	-0.00019	0.23354	0.24552
Mean	**0.26053**	**0.02527**	**1.84708**	**0.11685**	**0.11907**	**4.36188**	**0.00180**	**0.23169**	**0.24706**
%RSD	0.32615	4.74647	0.06847	4.22580	1.47960	0.10121	156.45925	1.13486	0.87971

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	5.19711	0.00698	0.44857	0.22305	0.01757	1.44622	0.95083	0.17774	0.03726
#2	5.23825	0.00435	0.45095	0.22403	0.01359	1.43849	0.95075	0.17804	0.03782
Mean	**5.21768**	**0.00567**	**0.44976**	**0.22354**	**0.01558**	**1.44235**	**0.95079**	**0.17789**	**0.03754**
%RSD	0.55759	32.83905	0.37537	0.30727	18.09558	0.37913	0.00607	0.11802	1.05800

	Pb	**Se**
	calc	calc
#1	0.12032	0.24235
#2	0.11633	0.24154
Mean	**0.11833**	**0.24194**
%RSD	2.38264	0.23729

Method : Paragon   File : 120202A   Printed : 2/2/2012 17:35:56
SampleId1 : 1201354-3   SampleId2 :   [SAMPLE]
Analysis commenced : 2/2/2012 15:53:14
Dilution ratio : 1.00000 to 1.00000   Tray :   Position : TUBE9

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00133	37.16636	0.10065	0.00885	1.08093	0.00368	-0.00356	97.30603	0.00072
#2	-0.00140	37.35885	0.10254	0.00782	1.09002	0.00372	-0.00217	97.21619	0.00040
Mean	**-0.00136**	**37.26261**	**0.10159**	**0.00833**	**1.08548**	**0.00370**	**-0.00286**	**97.26111**	**0.00056**
%RSD	3.91569	0.36528	1.31325	8.78430	0.59211	0.84072	34.39271	0.06531	39.92816

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.02038	0.02486	0.06012	65.73685	5.55398	0.04730	15.90170	1.43806	0.11165
#2	0.01941	0.02378	0.06059	65.82323	5.55607	0.04751	15.95914	1.44045	0.11084
Mean	**0.01989**	**0.02432**	**0.06035**	**65.78004**	**5.55503**	**0.04740**	**15.93042**	**1.43925**	**0.11125**
%RSD	3.43950	3.14134	0.54636	0.09286	0.02656	0.30904	0.25497	0.11731	0.51690

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.37995	0.01976	1.57313	0.18101	0.17451	4.83949	-0.00052	0.51389	0.52226
#2	0.38167	0.01783	1.58207	0.17129	0.17799	4.83637	0.00121	0.52126	0.51839

Mean	**0.38081**	**0.01880**	**1.57760**	**0.17615**	**0.17625**	**4.83793**	**0.00034**	**0.51757**	**0.52032**
%RSD	0.31890	7.26999	0.40038	3.90141	1.39712	0.04563	353.87032	1.00633	0.52547

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	12.16782	0.00463	0.43997	0.35875	0.00610	4.05096	1.64857	0.12846	0.04389
#2	12.22034	0.00245	0.44312	0.35397	0.01268	4.06728	1.65123	0.12490	0.04337
Mean	**12.19408**	**0.00354**	**0.44155**	**0.35636**	**0.00939**	**4.05912**	**1.64990**	**0.12668**	**0.04363**
%RSD	0.30458	43.68522	0.50397	0.94864	49.49837	0.28427	0.11385	1.98845	0.84894

	Pb	**Se**
	calc	calc
#1	0.17667	0.51947
#2	0.17576	0.51934
Mean	**0.17622**	**0.51941**
%RSD	0.36661	0.01718

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:56
SampleId1 : CCV **SampleId2 :** **[CV]**
Analysis commenced : 2/2/2012 15:55:23
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD6

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.21103	51.98046	0.52286	1.00145	1.07723	0.48669	0.53087	50.45902	0.51009
#2	0.20837	51.53632	0.51309	0.99931	1.06835	0.48477	0.53804	50.25066	0.50536
Mean	**0.20970**	**51.75839**	**0.51797**	**1.00038**	**1.07279**	**0.48573**	**0.53445**	**50.35484**	**0.50773**
%RSD	0.89770	0.60676	1.33334	0.15175	0.58527	0.27971	0.94848	0.29259	0.65801

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.49402	1.00879	1.05571	20.38779	52.07730	0.52685	50.10604	1.01085	0.99647
#2	0.49178	1.00413	1.04601	20.28585	51.59126	0.52085	49.78481	1.00633	0.99535
Mean	**0.49290**	**1.00646**	**1.05086**	**20.33682**	**51.83428**	**0.52385**	**49.94543**	**1.00859**	**0.99591**
%RSD	0.32078	0.32753	0.65251	0.35446	0.66305	0.80988	0.45478	0.31724	0.07956

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	48.69245	1.01004	4.95711	1.01499	1.00399	5.18602	0.49453	1.02505	1.01329
#2	48.17450	1.00472	4.92789	1.00548	1.00557	5.14232	0.49391	1.00347	1.01613
Mean	**48.43348**	**1.00738**	**4.94250**	**1.01023**	**1.00478**	**5.16417**	**0.49422**	**1.01426**	**1.01471**
%RSD	0.75619	0.37363	0.41811	0.66592	0.11064	0.59847	0.08911	1.50487	0.19776

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	5.13002	1.03006	0.53377	0.49467	0.52281	5.19880	0.49993	0.95032	1.01441
#2	5.09356	1.02392	0.52994	0.49204	0.52240	5.15628	0.49759	0.94705	1.01070
Mean	**5.11179**	**1.02699**	**0.53186**	**0.49335**	**0.52261**	**5.17754**	**0.49876**	**0.94868**	**1.01255**

%RSD	0.50440	0.42324	0.51021	0.37603	0.05520	0.58063	0.33170	0.24401	0.25906

	Pb calc	**Se** calc
#1	1.00766	1.01721
#2	1.00554	1.01191
Mean	**1.00660**	**1.01456**
%RSD	0.14889	0.36905

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:56
SampleId1 : CCB **SampleId2 :** **[CB]**
Analysis commenced : 2/2/2012 15:57:27
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD2

Final concentrations

	Ag ppm	**Al** ppm	**As** ppm	**B** ppm	**Ba** ppm	**Be** ppm	**Bi** ppm	**Ca** ppm	**Cd** ppm
#1	-0.00015	0.15284	-0.00279	-0.00268	-0.00022	0.00003	-0.01316	-0.05304	-0.00047
#2	-0.00074	0.15104	0.00143	-0.00202	-0.00001	0.00005	-0.00153	-0.03724	-0.00016
Mean	**-0.00044**	**0.15194**	**-0.00068**	**-0.00235**	**-0.00012**	**0.00004**	**-0.00735**	**-0.04514**	**-0.00032**
%RSD	93.45318	0.83958	436.49214	20.00986	125.04034	28.84629	111.98458	24.73760	70.24163

	Co ppm	**Cr** ppm	**Cu** ppm	**Fe** ppm	**K** ppm	**Li** ppm	**Mg** ppm	**Mn** ppm	**Mo** ppm
#1	-0.00101	-0.00019	-0.00275	0.01018	-0.37330	-0.00328	0.02854	0.00001	-0.00188
#2	-0.00118	-0.00050	-0.00274	0.02022	-0.36703	-0.00325	0.03482	0.00024	-0.00005
Mean	**-0.00109**	**-0.00034**	**-0.00275**	**0.01520**	**-0.37016**	**-0.00326**	**0.03168**	**0.00012**	**-0.00096**
%RSD	10.63185	64.44907	0.33183	46.72227	1.19859	0.78674	14.00597	135.47279	134.23420

	Na ppm	**Ni** ppm	**P** ppm	**Pb I** ppm	**Pb II** ppm	**S** ppm	**Sb** ppm	**Se I** ppm	**Se II** ppm
#1	-0.12999	-0.00079	-0.00653	0.00146	-0.00335	-0.01259	-0.00264	-0.00082	0.00117
#2	-0.12596	-0.00240	-0.00808	0.00100	0.00139	-0.01883	-0.00249	-0.00043	0.00014
Mean	**-0.12798**	**-0.00159**	**-0.00731**	**0.00123**	**-0.00098**	**-0.01571**	**-0.00257**	**-0.00062**	**0.00066**
%RSD	2.22581	71.74550	15.02562	26.08348	341.98745	28.07239	4.08472	44.00395	110.79412

	Si ppm	**Sn** ppm	**Sr** ppm	**Ti** ppm	**Tl** ppm	**U** ppm	**V** ppm	**Zn** ppm	**Zr** ppm
#1	-0.01639	0.00023	-0.00190	-0.00186	-0.00289	-0.04263	-0.00016	-0.00243	0.00005
#2	-0.01650	-0.00547	-0.00179	-0.00203	0.00745	-0.05465	0.00011	-0.00124	0.00016
Mean	**-0.01644**	**-0.00262**	**-0.00185**	**-0.00195**	**0.00228**	**-0.04864**	**-0.00003**	**-0.00184**	**0.00010**
%RSD	0.49072	153.80140	4.13629	5.95760	321.02420	17.46340	725.36560	45.70523	76.15229

	Pb calc	**Se** calc
#1	-0.00175	0.00051
#2	0.00126	-0.00005
Mean	**-0.00024**	**0.00023**
%RSD	871.50925	171.04039

ted: 2/2/2012 17:36:05 User: MIKE LUNDGREEN
Method : Paragon File : 120202A Printed : 2/2/2012 17:35:56
SampleId1 : 1201354-4 SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 15:59:27
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE10

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00025	29.35629	0.03850	0.00892	0.58314	0.00259	-0.00306	110.01119	0.00042
#2	-0.00199	29.41332	0.03783	0.00900	0.58474	0.00256	0.00273	109.68463	0.00000
Mean	**-0.00112**	**29.38481**	**0.03816**	**0.00896**	**0.58394**	**0.00258**	**-0.00016**	**109.84791**	**0.00021**
%RSD	110.26830	0.13723	1.23388	0.58344	0.19439	0.77189	2503.96867	0.21021	144.42025

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.03240	0.02263	0.02810	57.76040	4.96645	0.03995	11.80842	1.53443	0.03268
#2	0.03266	0.02195	0.02805	57.66783	4.94391	0.03998	11.80999	1.53180	0.03288
Mean	**0.03253**	**0.02229**	**0.02808**	**57.71411**	**4.95518**	**0.03997**	**11.80921**	**1.53312**	**0.03278**
%RSD	0.57064	2.16637	0.14555	0.11341	0.32160	0.05499	0.00938	0.12121	0.43851

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.62393	0.02864	1.17107	0.09465	0.08889	4.36812	-0.00052	0.12643	0.13049
#2	0.62359	0.02670	1.16037	0.09021	0.09089	4.40558	-0.00434	0.13121	0.13934
Mean	**0.62376**	**0.02767**	**1.16572**	**0.09243**	**0.08989**	**4.38685**	**-0.00243**	**0.12882**	**0.13491**
%RSD	0.03897	4.93850	0.64906	3.39212	1.56856	0.60378	111.22805	2.62448	4.63792

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	11.98836	0.00205	0.25949	0.31545	0.00795	0.40484	0.65898	0.14232	0.02938
#2	12.05935	-0.00013	0.26019	0.30943	0.00978	0.34596	0.65713	0.14202	0.02929
Mean	**12.02385**	**0.00096**	**0.25984**	**0.31244**	**0.00886**	**0.37540**	**0.65806**	**0.14217**	**0.02934**
%RSD	0.41753	160.98006	0.19162	1.36181	14.65616	11.09016	0.19900	0.15064	0.20843

	Pb	Se
	calc	calc
#1	0.09081	0.12914
#2	0.09066	0.13663
Mean	**0.09074**	**0.13288**
%RSD	0.11421	3.98794

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:56
SampleId1 : 1201354-5 SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:01:28
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE11

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00107	36.09753	0.12185	0.01107	1.53640	0.00347	0.00271	85.32053	0.00055
#2	-0.00230	36.22416	0.11852	0.01040	1.54326	0.00350	-0.01103	85.84743	0.00082
Mean	**-0.00168**	**36.16084**	**0.12019**	**0.01074**	**1.53983**	**0.00348**	**-0.00416**	**85.58398**	**0.00069**
%RSD	51.68351	0.24762	1.95902	4.38304	0.31516	0.47586	233.33898	0.43533	27.38084

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.02622	0.03195	0.04803	93.22595	5.88316	0.04455	14.72197	1.32898	0.09752
#2	0.02457	0.03149	0.04613	93.71216	5.91695	0.04458	14.74234	1.33673	0.09793
Mean	**0.02540**	**0.03172**	**0.04708**	**93.46906**	**5.90005**	**0.04456**	**14.73216**	**1.33285**	**0.09773**
%RSD	4.60191	1.01969	2.85044	0.36782	0.40497	0.04931	0.09776	0.41143	0.29420

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.90014	0.02852	1.62204	0.15146	0.14127	5.00807	0.00605	0.38183	0.38464
#2	0.90255	0.02607	1.63857	0.14127	0.14199	4.99246	0.00170	0.37596	0.39078
Mean	**0.90134**	**0.02730**	**1.63031**	**0.14637**	**0.14163**	**5.00027**	**0.00387**	**0.37889**	**0.38771**
%RSD	0.18899	6.33449	0.71693	4.92511	0.36048	0.22074	79.47700	1.09687	1.11890

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	14.28974	0.00727	0.39819	0.35615	0.00783	2.35863	1.11144	0.15868	0.04319
#2	14.29778	-0.00063	0.39967	0.36163	0.00972	2.32336	1.11617	0.16141	0.04269
Mean	**14.29376**	**0.00332**	**0.39893**	**0.35889**	**0.00877**	**2.34099**	**1.11381**	**0.16004**	**0.04294**
%RSD	0.03977	168.36106	0.26277	1.07865	15.24743	1.06516	0.30031	1.20441	0.81924

	Pb	Se
	calc	calc
#1	0.14466	0.38371
#2	0.14175	0.38584
Mean	**0.14321**	**0.38477**
%RSD	1.43842	0.39232

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:57
SampleId1 : 1201354-6 SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:03:21
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE12

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00118	34.02411	0.05170	0.00841	1.49361	0.00307	-0.00850	124.48653	-0.00008
#2	-0.00067	34.03096	0.05270	0.00959	1.49326	0.00297	0.00569	125.17833	0.00048
Mean	**-0.00093**	**34.02753**	**0.05220**	**0.00900**	**1.49344**	**0.00302**	**-0.00141**	**124.83243**	**0.00020**
%RSD	39.06002	0.01424	1.35304	9.29675	0.01658	2.33861	714.45149	0.39187	197.21701

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo

	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.02549	0.02599	0.03986	68.42955	5.60781	0.04466	14.55485	1.36000	0.08594
#2	0.02706	0.02609	0.04020	68.63033	5.61073	0.04467	14.56007	1.36322	0.08482
Mean	**0.02627**	**0.02604**	**0.04003**	**68.52994**	**5.60927**	**0.04466**	**14.55746**	**1.36161**	**0.08538**
%RSD	4.23722	0.29505	0.60410	0.20717	0.03682	0.00820	0.02537	0.16732	0.92605

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	1.14725	0.02702	1.56398	0.13179	0.13404	4.13089	-0.00216	0.37297	0.39074
#2	1.14381	0.02761	1.53740	0.13427	0.12813	4.14962	-0.00085	0.37857	0.38992
Mean	**1.14553**	**0.02732**	**1.55069**	**0.13303**	**0.13109**	**4.14026**	**-0.00151**	**0.37577**	**0.39033**
%RSD	0.21262	1.53143	1.21167	1.31812	3.19193	0.31986	61.60388	1.05523	0.14890

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	11.99391	0.00073	0.41806	0.32380	0.00791	2.52834	1.03450	0.15171	0.04207
#2	11.95744	0.00205	0.41813	0.32064	0.00757	2.54786	1.03718	0.15414	0.04307
Mean	**11.97568**	**0.00139**	**0.41809**	**0.32222**	**0.00774**	**2.53810**	**1.03584**	**0.15293**	**0.04257**
%RSD	0.21530	67.24778	0.01223	0.69207	3.12696	0.54364	0.18300	1.12039	1.65858

	Pb	**Se**
	calc	calc
#1	0.13329	0.38482
#2	0.13017	0.38614
Mean	**0.13173**	**0.38548**
%RSD	1.67533	0.24197

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:57
SampleId1 : 1201354-7 **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 16:05:14
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE13

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00005	40.05348	0.08156	0.01033	1.18058	0.00339	0.00578	296.84764	0.00079
#2	-0.00117	40.00234	0.07424	0.00937	1.17743	0.00337	-0.00563	296.96774	0.00041
Mean	**-0.00061**	**40.02791**	**0.07790**	**0.00985**	**1.17901**	**0.00338**	**0.00008**	**296.90769**	**0.00060**
%RSD	129.83681	0.09034	6.64948	6.90144	0.18877	0.30928	10621.35086	0.02860	44.06531

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.02983	0.03360	0.04838	82.75483	7.48455	0.05972	17.31888	1.85296	0.04325
#2	0.02983	0.03316	0.04826	82.71242	7.48788	0.05965	17.28285	1.85057	0.04192
Mean	**0.02983**	**0.03338**	**0.04832**	**82.73363**	**7.48621**	**0.05968**	**17.30087**	**1.85176**	**0.04259**
%RSD	0.00019	0.91868	0.16851	0.03625	0.03150	0.08587	0.14725	0.09140	2.19390

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm

#1	0.67680	0.04390	1.84171	0.13048	0.12550	4.58351	0.00103	0.29046	0.30383
#2	0.67791	0.04433	1.84328	0.12274	0.12104	4.62097	-0.00188	0.27747	0.30357
Mean	**0.67735**	**0.04412**	**1.84250**	**0.12661**	**0.12327**	**4.60224**	**-0.00043**	**0.28396**	**0.30370**
%RSD	0.11666	0.69535	0.06006	4.32131	2.55790	0.57555	480.40602	3.23404	0.06218

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	16.16795	-0.00214	0.49302	0.52382	0.01164	1.35601	0.84909	0.19685	0.04632
#2	16.12140	0.00137	0.49202	0.52168	0.01173	1.35058	0.85043	0.19836	0.04627
Mean	**16.14467**	**-0.00038**	**0.49252**	**0.52275**	**0.01169**	**1.35330**	**0.84976**	**0.19760**	**0.04630**
%RSD	0.20389	651.58577	0.14288	0.28834	0.53938	0.28367	0.11150	0.54199	0.07086

	Pb	**Se**
	calc	calc
#1	0.12716	0.29938
#2	0.12161	0.29488
Mean	**0.12438**	**0.29713**
%RSD	3.15564	1.07161

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:57
SampleId1 : 1201354-8 **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 16:07:07
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE14

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00158	51.81947	0.07113	0.01632	0.72066	0.00483	0.00064	80.27883	0.00019
#2	-0.00185	51.95146	0.06680	0.01713	0.72332	0.00478	-0.00471	80.20676	0.00055
Mean	**-0.00172**	**51.88546**	**0.06896**	**0.01673**	**0.72199**	**0.00480**	**-0.00204**	**80.24279**	**0.00037**
%RSD	11.04794	0.17987	4.43830	3.43872	0.25988	0.79070	186.10325	0.06351	67.69514

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.04651	0.04646	0.07865	110.41670	11.24635	0.06428	19.80504	1.57457	0.10342
#2	0.04661	0.04682	0.07876	110.46129	11.27964	0.06465	19.84419	1.57720	0.10342
Mean	**0.04656**	**0.04664**	**0.07871**	**110.43899**	**11.26300**	**0.06447**	**19.82462**	**1.57589**	**0.10342**
%RSD	0.14314	0.53361	0.09922	0.02855	0.20904	0.40877	0.13965	0.11795	0.00000

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	1.02827	0.05585	2.13657	0.13142	0.13452	9.98995	0.00171	0.12628	0.15136
#2	1.03490	0.05585	2.15269	0.13245	0.13568	10.06808	0.00343	0.12695	0.15550
Mean	**1.03159**	**0.05585**	**2.14463**	**0.13194**	**0.13510**	**10.02901**	**0.00257**	**0.12662**	**0.15343**
%RSD	0.45431	0.00000	0.53144	0.55066	0.60816	0.55083	47.17948	0.37473	1.90852

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	13.50315	0.00326	0.61014	0.40892	0.01847	2.67770	0.54058	0.28531	0.05018

#2	13.60602	0.00019	0.61199	0.40512	0.01524	2.68749	0.54555	0.28501	0.04935
Mean	**13.55458**	**0.00173**	**0.61106**	**0.40702**	**0.01685**	**2.68260**	**0.54307**	**0.28516**	**0.04977**
%RSD	0.53664	125.50203	0.21382	0.65962	13.56855	0.25818	0.64740	0.07513	1.17502

	Pb	**Se**
	calc	calc
#1	0.13349	0.14301
#2	0.13461	0.14599
Mean	**0.13405**	**0.14450**
%RSD	0.58931	1.46098

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:57
SampleId1 : 1201354-9 SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:09:08
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE15

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00137	44.10507	0.09865	0.01070	0.73295	0.00403	-0.00319	150.82734	0.00065
#2	-0.00267	43.88158	0.09410	0.00892	0.73072	0.00392	-0.00995	148.55993	-0.00023
Mean	**-0.00202**	**43.99332**	**0.09638**	**0.00981**	**0.73184**	**0.00398**	**-0.00657**	**149.69363**	**0.00021**
%RSD	45.35659	0.35922	3.33869	12.78913	0.21591	1.96504	72.78695	1.07105	293.73697

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.03087	0.03580	0.04705	110.77206	7.67964	0.05973	19.44588	1.87941	0.07201
#2	0.02897	0.03447	0.04455	109.39208	7.63837	0.05957	19.26003	1.85907	0.07059
Mean	**0.02992**	**0.03514**	**0.04580**	**110.08207**	**7.65900**	**0.05965**	**19.35296**	**1.86924**	**0.07130**
%RSD	4.49655	2.67911	3.86592	0.88642	0.38100	0.19024	0.67904	0.76974	1.41127

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.37471	0.03846	2.07927	0.11973	0.11946	4.50859	0.00015	0.22255	0.25333
#2	0.37016	0.03578	2.05063	0.10693	0.12460	4.49298	0.00042	0.20830	0.24891
Mean	**0.37244**	**0.03712**	**2.06495**	**0.11333**	**0.12203**	**4.50079**	**0.00028**	**0.21543**	**0.25112**
%RSD	0.86406	5.10928	0.98091	7.98864	2.98188	0.24521	67.00638	4.67797	1.24289

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	7.47164	-0.00365	0.40932	0.31862	0.01538	1.46247	1.54276	0.23078	0.04451
#2	7.38782	0.00292	0.40744	0.31912	0.00347	1.42848	1.53021	0.22593	0.04404
Mean	**7.42973**	**-0.00036**	**0.40838**	**0.31887**	**0.00942**	**1.44547**	**1.53649**	**0.22835**	**0.04428**
%RSD	0.79772	1281.18332	0.32558	0.10910	89.41091	1.66280	0.57765	1.50097	0.73770

	Pb	**Se**
	calc	calc
#1	0.11955	0.24308
#2	0.11872	0.23539

Mean	**0.11913**	**0.23923er: MIKE LUNDGREEN**
%RSD	0.49336	2.27294

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:57
SampleId1 : 1201354-10 SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:11:09
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE16

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00199	67.10127	0.04793	0.01795	0.77583	0.00574	-0.00121	136.86737	0.00070
#2	-0.00172	66.88770	0.04926	0.01735	0.77360	0.00570	0.00389	136.21801	0.00059
Mean	**-0.00185**	**66.99448**	**0.04860**	**0.01765**	**0.77472**	**0.00572**	**0.00134**	**136.54269**	**0.00064**
%RSD	10.16221	0.22542	1.93797	2.36992	0.20399	0.56679	269.12930	0.33629	12.18239

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.05921	0.06290	0.11267	140.87651	15.29077	0.08603	22.50829	2.00239	0.00920
#2	0.05889	0.06135	0.11025	140.25346	15.21931	0.08572	22.43888	1.99640	0.01022
Mean	**0.05905**	**0.06213**	**0.11146**	**140.56499**	**15.25504**	**0.08588**	**22.47359**	**1.99940**	**0.00971**
%RSD	0.37750	1.76122	1.53399	0.31342	0.33124	0.25978	0.21840	0.21182	7.40294

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.68728	0.08551	3.01801	0.12542	0.12511	5.85730	-0.00308	-0.01057	0.01946
#2	0.68849	0.08350	2.94791	0.12489	0.12259	5.86042	0.00157	-0.01006	0.02948
Mean	**0.68788**	**0.08450**	**2.98296**	**0.12515**	**0.12385**	**5.85886**	**-0.00076**	**-0.01032**	**0.02447**
%RSD	0.12372	1.68310	1.66167	0.29771	1.43505	0.03768	433.49067	3.50036	28.96430

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	14.41718	0.00540	0.44421	0.45357	0.01382	0.28276	0.21634	0.37440	0.05645
#2	14.33000	0.00015	0.44256	0.44499	0.01892	0.28209	0.21541	0.37259	0.05612
Mean	**14.37359**	**0.00277**	**0.44338**	**0.44928**	**0.01637**	**0.28242**	**0.21588**	**0.37350**	**0.05629**
%RSD	0.42889	133.87600	0.26248	1.34996	22.04782	0.16706	0.30474	0.34428	0.41769

	Pb	Se
	calc	calc
#1	0.12521	0.00946
#2	0.12336	0.01631
Mean	**0.12428**	**0.01289**
%RSD	1.05366	37.62081

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:58
SampleId1 : 1201354-11 SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:13:02
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE17

Final concentrations:05 **User: MIKE LUNDGREEN**

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00113	47.89922	0.16713	0.00989	0.74043	0.00435	-0.00485	72.48128	0.00057
#2	-0.00132	47.44356	0.16747	0.01018	0.73240	0.00430	-0.00230	71.66935	0.00071
Mean	**-0.00123**	**47.67139**	**0.16730**	**0.01003**	**0.73641**	**0.00433**	**-0.00357**	**72.07532**	**0.00064**
%RSD	10.92824	0.67589	0.14073	2.08440	0.77111	0.79534	50.42539	0.79655	15.48530

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.03950	0.03493	0.07291	114.18188	9.17855	0.06991	19.22401	1.95173	0.18638
#2	0.03768	0.03346	0.07316	112.80308	9.04441	0.06895	19.05956	1.93389	0.18302
Mean	**0.03859**	**0.03420**	**0.07304**	**113.49248**	**9.11148**	**0.06943**	**19.14179**	**1.94281**	**0.18470**
%RSD	3.33049	3.02425	0.24571	0.85905	1.04102	0.97509	0.60748	0.64939	1.28451

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.67069	0.04414	2.13142	0.16121	0.15810	7.98412	0.00149	0.63222	0.65633
#2	0.66167	0.04217	2.10300	0.16208	0.15573	7.90603	0.00373	0.64611	0.65191
Mean	**0.66618**	**0.04315**	**2.11721**	**0.16165**	**0.15692**	**7.94507**	**0.00261**	**0.63917**	**0.65412**
%RSD	0.95805	3.23146	0.94943	0.37902	1.06731	0.69502	60.71284	1.53691	0.47838

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	8.67589	0.00733	0.36655	0.30346	0.02385	2.95352	1.36560	0.26198	0.05460
#2	8.54524	0.01215	0.36216	0.29890	0.02488	2.94245	1.34987	0.25956	0.05426
Mean	**8.61056**	**0.00974**	**0.36436**	**0.30118**	**0.02437**	**2.94798**	**1.35773**	**0.26077**	**0.05443**
%RSD	1.07288	35.04556	0.85230	1.07213	3.00147	0.26553	0.81944	0.65725	0.44544

	Pb	Se
	calc	calc
#1	0.15914	0.64830
#2	0.15785	0.64998
Mean	**0.15849**	**0.64914**
%RSD	0.57609	0.18240

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:58
SampleId1 : 1201354-12 SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:15:03
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE18

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00111	27.71180	0.01463	0.00678	0.47281	0.00248	-0.00029	9.96767	0.00013
#2	-0.00039	27.57958	0.01918	0.00700	0.46905	0.00243	0.00156	9.93816	0.00065
Mean	**-0.00075**	**27.64569**	**0.01691**	**0.00689**	**0.47093**	**0.00245**	**0.00064**	**9.95291**	**0.00039**
%RSD	67.76122	0.33818	19.03019	2.27620	0.56568	1.56756	206.49208	0.20961	92.95031

ted: 2/2/2012 17:36:05 User: MIKE LUNDGREEN

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.01996	0.03225	0.03167	71.62442	7.07805	0.02047	8.91189	1.15583	0.00280
#2	0.02120	0.03280	0.03323	71.37194	6.99799	0.02029	8.89465	1.15214	0.00117
Mean	**0.02058**	**0.03252**	**0.03245**	**71.49818**	**7.03802**	**0.02038**	**8.90327**	**1.15399**	**0.00198**
%RSD	4.28603	1.19643	3.40388	0.24971	0.80433	0.64761	0.13695	0.22639	57.96526

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.04268	0.03688	1.51128	0.06262	0.05702	2.30522	0.00155	-0.00359	0.00982
#2	0.04080	0.03739	1.49476	0.06168	0.05877	2.30834	-0.00203	0.00088	0.01382
Mean	**0.04174**	**0.03714**	**1.50302**	**0.06215**	**0.05789**	**2.30678**	**-0.00024**	**-0.00136**	**0.01182**
%RSD	3.19635	0.97626	0.77721	1.07256	2.13585	0.09565	1049.03180	233.07069	23.87623

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	4.75623	0.00552	0.07470	0.35149	0.01065	0.01447	0.08190	0.17231	0.03168
#2	4.69297	-0.00193	0.07420	0.34460	0.02010	0.02447	0.08115	0.17170	0.03248
Mean	**4.72460**	**0.00180**	**0.07445**	**0.34804**	**0.01538**	**0.01947**	**0.08152**	**0.17201**	**0.03208**
%RSD	0.94688	293.24766	0.47929	1.39931	43.44228	36.29557	0.65113	0.24904	1.76695

	Pb	Se
	calc	calc
#1	0.05889	0.00536
#2	0.05974	0.00951
Mean	**0.05931**	**0.00743**
%RSD	1.01632	39.49886

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:58
SampleId1 : 1201354-13 **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 16:16:56
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE19

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00098	57.44101	0.06791	0.01491	0.98292	0.00606	0.01092	43.39259	0.00086
#2	-0.00182	57.33626	0.06347	0.01381	0.98187	0.00599	0.00696	43.06513	0.00091
Mean	**-0.00140**	**57.38864**	**0.06569**	**0.01436**	**0.98240**	**0.00602**	**0.00894**	**43.22886**	**0.00089**
%RSD	42.71662	0.12907	4.77900	5.46185	0.07546	0.81828	31.38251	0.53564	4.03624

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.06599	0.07072	0.09299	266.48378	21.55162	0.06054	26.32953	2.57416	0.00158
#2	0.06484	0.06910	0.09240	264.55440	21.55162	0.06053	26.23145	2.55998	0.00087
Mean	**0.06542**	**0.06991**	**0.09269**	**265.51909**	**21.55162**	**0.06054**	**26.28049**	**2.56707**	**0.00122**
%RSD	1.24463	1.63716	0.44809	0.51382	0.00000	0.00605	0.26391	0.39067	41.18575

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	1.22080	0.07202	4.04853	0.10736	0.10092	18.08377	0.00670	-0.03590	0.01591
#2	1.22528	0.07186	4.00226	0.09628	0.10840	18.03056	-0.00135	-0.04615	0.02025
Mean	**1.22304**	**0.07194**	**4.02540**	**0.10182**	**0.10466**	**18.05717**	**0.00267**	**-0.04102**	**0.01808**
%RSD	0.25896	0.15506	0.81266	7.69371	5.05189	0.20836	213.18598	17.67544	16.96675

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	4.56468	0.00342	0.38694	0.26896	0.03545	0.13938	0.18525	0.37471	0.04358
#2	4.48872	0.00342	0.38627	0.26630	0.03396	0.12323	0.18315	0.36986	0.04267
Mean	**4.52670**	**0.00342**	**0.38661**	**0.26763**	**0.03470**	**0.13131**	**0.18420**	**0.37228**	**0.04313**
%RSD	1.18654	0.06396	0.12233	0.70327	3.03229	8.69697	0.80662	0.92106	1.48225

	Pb	Se
	calc	calc
#1	0.10307	-0.00134
#2	0.10437	-0.00186
Mean	**0.10372**	**-0.00160**
%RSD	0.88504	23.02152

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:58
SampleId1 : CCV **SampleId2 :** **[CV]**
Analysis commenced : 2/2/2012 16:19:19
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD6

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.21312	52.22613	0.53451	1.01034	1.08177	0.48999	0.54090	50.45437	0.50878
#2	0.21115	52.08788	0.52463	1.00886	1.07904	0.48934	0.53531	50.37962	0.50824
Mean	**0.21214**	**52.15701**	**0.52957**	**1.00960**	**1.08041**	**0.48967**	**0.53811**	**50.41700**	**0.50851**
%RSD	0.65553	0.18742	1.31895	0.10370	0.17846	0.09368	0.73501	0.10484	0.07565

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.49426	1.01034	1.06484	20.39408	52.06422	0.52699	50.43820	1.01216	1.00248
#2	0.49492	1.00780	1.06196	20.38034	51.95059	0.52569	50.30804	1.01026	0.99790
Mean	**0.49459**	**1.00907**	**1.06340**	**20.38721**	**52.00740**	**0.52634**	**50.37312**	**1.01121**	**1.00019**
%RSD	0.09393	0.17768	0.19124	0.04765	0.15450	0.17364	0.18270	0.13323	0.32409

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	48.75992	1.00559	4.98815	1.01701	1.00276	5.24222	0.50318	1.01743	1.00584
#2	48.58353	1.00701	5.01738	1.00841	1.00698	5.19539	0.49668	1.02586	1.01052
Mean	**48.67172**	**1.00630**	**5.00277**	**1.01271**	**1.00487**	**5.21881**	**0.49993**	**1.02164**	**1.00818**
%RSD	0.25627	0.09974	0.41317	0.60000	0.29692	0.63452	0.92022	0.58353	0.32780

Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr

	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	5.16991	1.04456	0.53611	0.49738	0.53349	5.20971	0.49972	0.96835	1.01823
#2	5.16277	1.03665	0.53491	0.49721	0.51730	5.19989	0.49988	0.96593	1.01651
Mean	**5.16634**	**1.04060**	**0.53551**	**0.49730**	**0.52540**	**5.20480**	**0.49980**	**0.96714**	**1.01737**
%RSD	0.09774	0.53732	0.15776	0.02332	2.17928	0.13338	0.02252	0.17758	0.11952

	Pb	**Se**
	calc	calc
#1	1.00750	1.00970
#2	1.00745	1.01563
Mean	**1.00748**	**1.01266**
%RSD	0.00331	0.41371

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:58
SampleId1 : CCB **SampleId2 :** **[CB]**
Analysis commenced : 2/2/2012 16:21:26
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD2

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00022	0.15671	-0.00068	-0.00268	-0.00043	0.00009	-0.00477	-0.05529	-0.00057
#2	-0.00070	0.15678	-0.00179	-0.00246	-0.00050	0.00009	-0.01036	-0.04852	-0.00060
Mean	**-0.00024**	**0.15674**	**-0.00124**	**-0.00257**	**-0.00047**	**0.00009**	**-0.00757**	**-0.05191**	**-0.00059**
%RSD	270.60522	0.03238	63.38406	6.09502	10.55933	0.81174	52.21927	9.21948	3.96192

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00060	0.00063	-0.00292	0.01435	-0.37916	-0.00330	0.03220	0.00012	0.00005
#2	-0.00076	0.00072	-0.00266	0.02269	-0.39003	-0.00331	0.02802	0.00001	0.00137
Mean	**-0.00068**	**0.00067**	**-0.00279**	**0.01852**	**-0.38459**	**-0.00331**	**0.03011**	**0.00006**	**0.00071**
%RSD	17.07975	9.33749	6.61922	31.85398	1.99962	0.11098	9.82377	130.00444	130.98072

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.13282	-0.00027	-0.01008	0.00232	-0.00282	-0.02195	-0.00250	0.00323	0.00134
#2	-0.13222	-0.00150	-0.00032	0.00273	0.00063	-0.01883	0.00002	-0.00241	-0.00545
Mean	**-0.13252**	**-0.00088**	**-0.00520**	**0.00252**	**-0.00110**	**-0.02039**	**-0.00124**	**0.00041**	**-0.00205**
%RSD	0.32013	97.82080	132.72454	11.57635	222.26917	10.81576	143.37487	966.14228	234.09425

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.01881	-0.00459	-0.00185	-0.00210	0.00747	-0.00444	0.00038	-0.00212	0.00043
#2	-0.01417	-0.00459	-0.00187	-0.00246	-0.00085	-0.02191	-0.00059	-0.00272	0.00027
Mean	**-0.01649**	**-0.00459**	**-0.00186**	**-0.00228**	**0.00331**	**-0.01317**	**-0.00011**	**-0.00242**	**0.00035**
%RSD	19.92348	0.00633	0.68604	10.95096	177.73208	93.78614	642.07672	17.70755	33.53769

	Pb	**Se**
	calc	calc

#1	-0.00111	0.00197
#2	0.00133	-0.00444
Mean	**0.00011**	**-0.00123**
%RSD	1582.94962	368.15725

er: MIKE LUNDGREEN

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:59
SampleId1 : EX120201-2MB SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:23:45
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE20

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00043	0.11005	-0.00146	0.00737	-0.00008	-0.00007	-0.01386	-0.06620	-0.00063
#2	-0.00016	0.11903	-0.00168	0.00796	-0.00001	-0.00006	-0.01130	-0.06544	-0.00097
Mean	**-0.00029**	**0.11454**	**-0.00157**	**0.00767**	**-0.00005**	**-0.00007**	**-0.01258**	**-0.06582**	**-0.00080**
%RSD	64.15243	5.54282	9.99027	5.45526	101.52161	7.45568	14.39037	0.80786	30.39365

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00192	-0.00079	-0.00374	-0.01222	-0.39422	-0.00351	0.00083	-0.00059	-0.00249
#2	-0.00101	-0.00150	-0.00362	-0.01176	-0.41597	-0.00354	-0.00440	-0.00070	-0.00350
Mean	**-0.00146**	**-0.00115**	**-0.00368**	**-0.01199**	**-0.40509**	**-0.00353**	**-0.00179**	**-0.00065**	**-0.00300**
%RSD	43.90974	44.13379	2.28137	2.73272	3.79692	0.62424	206.95301	12.95993	23.98437

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	141.25450	-0.00153	-0.00453	-0.00035	-0.00091	-0.02507	-0.00198	-0.00375	0.00383
#2	140.58168	-0.00019	-0.00032	0.00021	0.00271	-0.01259	-0.00264	0.00201	0.00117
Mean	**140.91809**	**-0.00086**	**-0.00243**	**-0.00007**	**0.00090**	**-0.01883**	**-0.00231**	**-0.00087**	**0.00250**
%RSD	0.33761	109.73584	122.78921	569.69493	282.99484	46.84578	20.24512	469.64467	75.39252

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00191	-0.00021	-0.00205	-0.00237	-0.00110	-0.02843	-0.00098	-0.00181	0.00003
#2	0.00288	0.00330	-0.00210	-0.00279	0.00464	-0.02625	-0.00135	-0.00333	-0.00056
Mean	**0.00239**	**0.00155**	**-0.00207**	**-0.00258**	**0.00177**	**-0.02734**	**-0.00117**	**-0.00257**	**-0.00027**
%RSD	28.71565	160.49657	1.84348	11.42188	228.84105	5.64515	22.92225	41.66066	154.84777

	Pb	**Se**
	calc	calc
#1	-0.00072	0.00131
#2	0.00188	0.00145
Mean	**0.00058**	**0.00138**
%RSD	317.31919	7.15797

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:59
SampleId1 : EX120201-2RVS SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:25:38

Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE21

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00956	1.07265	0.04660	0.04420	0.04979	0.00947	0.08819	4.71126	0.01938
#2	0.01002	1.08606	0.04305	0.04560	0.05000	0.00952	0.09099	4.71955	0.01898
Mean	**0.00979**	**1.07935**	**0.04482**	**0.04490**	**0.04989**	**0.00949**	**0.08959**	**4.71540**	**0.01918**
%RSD	3.28139	0.87850	5.60300	2.21269	0.29617	0.32779	2.20925	0.12440	1.47705

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.01770	0.04792	0.04595	0.96172	7.52874	0.03429	4.66607	0.04806	0.09752
#2	0.01803	0.04867	0.04715	0.96622	7.56584	0.03448	4.67757	0.04842	0.09813
Mean	**0.01786**	**0.04830**	**0.04655**	**0.96397**	**7.54729**	**0.03438**	**4.67182**	**0.04824**	**0.09783**
%RSD	1.30737	1.09462	1.81821	0.32976	0.34761	0.39432	0.17406	0.52059	0.44084

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	7.66860	0.04745	0.91618	0.04725	0.04816	0.94498	0.09156	0.04274	0.04368
#2	7.71532	0.04832	0.93155	0.04868	0.04727	0.95745	0.09010	0.05133	0.04334
Mean	**7.69196**	**0.04788**	**0.92386**	**0.04796**	**0.04772**	**0.95121**	**0.09083**	**0.04703**	**0.04351**
%RSD	0.42946	1.28131	1.17604	2.10983	1.31757	0.92755	1.13525	12.90001	0.55811

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.25223	0.09312	0.04778	0.04440	0.09752	0.46207	0.04796	0.04754	0.04912
#2	0.25025	0.09532	0.04791	0.04449	0.10067	0.47407	0.04904	0.04330	0.04925
Mean	**0.25124**	**0.09422**	**0.04784**	**0.04444**	**0.09910**	**0.46807**	**0.04850**	**0.04542**	**0.04919**
%RSD	0.55536	1.64528	0.18641	0.14051	2.25198	1.81333	1.57534	6.59951	0.18532

	Pb	Se
	calc	calc
#1	0.04786	0.04337
#2	0.04774	0.04600
Mean	**0.04780**	**0.04468**
%RSD	0.17229	4.15924

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:59
SampleId1 : EX120201-2LCS **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 16:27:32
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE22

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.09934	2.36891	1.98475	0.49569	2.15138	0.04833	-0.00547	38.62788	0.05184
#2	0.09736	2.35415	1.97698	0.49154	2.14156	0.04821	-0.00594	38.43786	0.05178

Mean	**0.09835**	**2.36153**	**1.98087**	**0.49362**	**2.14647**	**0.04827**	**-0.00571**	**38.53287**	**0.05181**
%RSD	1.42704	0.44211	0.27732	0.59351	0.32368	0.18169	5.76384	0.34871	0.09322

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.49000	0.20048	0.26691	1.01056	50.27689	0.58627	37.35758	0.50388	1.00289
#2	0.48628	0.19909	0.26762	1.00420	50.01138	0.58328	37.27627	0.50103	0.99087
Mean	**0.48814**	**0.19978**	**0.26726**	**1.00738**	**50.14414**	**0.58478**	**37.31692**	**0.50246**	**0.99688**
%RSD	0.53963	0.49289	0.18994	0.44619	0.37440	0.36161	0.15407	0.40095	0.85265

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	173.87868	0.50055	-0.00276	0.50178	0.48743	-0.00324	0.48066	1.94409	1.90648
#2	172.75541	0.50224	-0.00542	0.49439	0.48356	-0.00947	0.47834	1.93981	1.91336
Mean	**173.31705**	**0.50139**	**-0.00409**	**0.49808**	**0.48550**	**-0.00636**	**0.47950**	**1.94195**	**1.90992**
%RSD	0.45827	0.23914	46.01145	1.04906	0.56317	69.40134	0.34278	0.15582	0.25477

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	2.03203	0.52074	0.53808	0.48787	2.07204	-0.05423	0.50271	0.48353	0.00134
#2	2.02051	0.51197	0.53528	0.48609	2.06049	-0.04768	0.50136	0.47989	0.00057
Mean	**2.02627**	**0.51636**	**0.53668**	**0.48698**	**2.06626**	**-0.05095**	**0.50203**	**0.48171**	**0.00096**
%RSD	0.40223	1.20165	0.36970	0.25824	0.39529	9.09396	0.19015	0.53404	56.68070

	Pb	**Se**
	calc	calc
#1	0.49221	1.91900
#2	0.48717	1.92217
Mean	**0.48969**	**1.92058**
%RSD	0.72774	0.11652

Method : Paragon File : 120202A Printed : 2/2/2012 17:35:59
SampleId1 : 1201363-11 **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 16:29:26
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE23

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00076	1.81216	0.00187	0.00981	0.08629	0.00003	-0.00793	21.95283	-0.00010
#2	-0.00055	1.81417	-0.00290	0.00944	0.08643	0.00004	-0.00747	21.84998	-0.00045
Mean	**-0.00065**	**1.81317**	**-0.00052**	**0.00963**	**0.08636**	**0.00003**	**-0.00770**	**21.90140**	**-0.00028**
%RSD	22.98847	0.07818	653.05382	2.71556	0.11409	22.34226	4.25114	0.33208	89.51437

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00130	0.00108	-0.00120	1.16859	1.07692	-0.00023	9.57235	0.38568	-0.00208
#2	0.00072	0.00081	-0.00166	1.16502	1.05560	-0.00027	9.56295	0.38521	-0.00096
Mean	**0.00101**	**0.00094**	**-0.00143**	**1.16681**	**1.06626**	**-0.00025**	**9.56765**	**0.38545**	**-0.00152**

%RSD	40.66026	19.98756	22.89431	0.21623	1.41388	11.61875	0.06951	0.08705	51.91714

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	129.30372	0.00095	0.05957	0.00235	0.00230	0.17766	-0.00107	-0.00047	0.00313
#2	129.15974	0.00134	0.06201	-0.00108	0.00761	0.17766	-0.00145	-0.00357	0.00528
Mean	**129.23173**	**0.00115**	**0.06079**	**0.00063**	**0.00495**	**0.17766**	**-0.00126**	**-0.00202**	**0.00420**
%RSD	0.07878	24.30642	2.83852	383.95648	75.77844	0.00000	21.63849	108.28031	36.17988

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	3.67718	-0.00334	0.07731	0.05381	0.00085	-0.02923	0.00174	0.12082	0.00131
#2	3.67763	0.00104	0.07719	0.05601	-0.00108	-0.04997	0.00114	0.12112	0.00138
Mean	**3.67740**	**-0.00115**	**0.07725**	**0.05491**	**-0.00012**	**-0.03960**	**0.00144**	**0.12097**	**0.00134**
%RSD	0.00872	268.96659	0.11548	2.82695	1162.43703	37.02346	29.22803	0.17702	3.85827

	Pb	**Se**
	calc	calc
#1	0.00232	0.00193
#2	0.00471	0.00233
Mean	**0.00352**	**0.00213**
%RSD	48.22869	13.35588

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:00
SampleId1 : 1201363-11D SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:31:20
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE24

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00044	1.83582	-0.00568	0.01055	0.08734	0.00005	-0.00443	22.20009	0.00015
#2	0.00023	1.84249	-0.00046	0.01055	0.08762	0.00003	-0.00606	22.13875	-0.00041
Mean	**-0.00011**	**1.83915**	**-0.00307**	**0.01055**	**0.08748**	**0.00004**	**-0.00525**	**22.16942**	**-0.00013**
%RSD	441.21602	0.25645	120.16969	0.00000	0.22526	21.08859	22.03068	0.19566	308.31729

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00088	0.00056	-0.00157	1.17604	1.10534	-0.00025	9.68991	0.39007	-0.00228
#2	0.00105	0.00131	-0.00144	1.17821	1.09280	-0.00024	9.67162	0.38936	0.00127
Mean	**0.00097**	**0.00093**	**-0.00151**	**1.17712**	**1.09907**	**-0.00025**	**9.68077**	**0.38972**	**-0.00051**
%RSD	12.46882	57.29373	5.89695	0.13047	0.80685	2.96560	0.13357	0.12915	496.77887

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	130.51198	0.00182	0.05868	0.00280	0.00137	0.17142	-0.00490	0.00087	0.00003
#2	130.02998	0.00091	0.05735	0.00286	0.00137	0.17454	-0.00118	0.00542	0.00055
Mean	**130.27098**	**0.00136**	**0.05802**	**0.00283**	**0.00137**	**0.17298**	**-0.00304**	**0.00315**	**0.00029**
%RSD	0.26163	47.01594	1.62227	1.53831	0.19788	1.27495	86.52907	102.16396	125.91361

ted: 2/2/2012 17:36:05 User: MIKE LUNDGREEN

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	3.72025	0.00279	0.07775	0.05814	-0.00465	-0.01832	0.00168	0.12234	0.00172
#2	3.74294	-0.00597	0.07766	0.05560	-0.00038	-0.02269	0.00212	0.12203	0.00170
Mean	**3.73159**	**-0.00159**	**0.07770**	**0.05687**	**-0.00252**	**-0.02051**	**0.00190**	**0.12218**	**0.00171**
%RSD	0.42994	389.17854	0.08201	3.15297	119.91184	15.05791	16.09538	0.17527	0.93078

	Pb	Se
	calc	calc
#1	0.00184	0.00031
#2	0.00187	0.00217
Mean	**0.00186**	**0.00124**
%RSD	0.87868	105.86465

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:00
SampleId1 : 1201363-11L 5X SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:33:35
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE25

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00087	0.40057	0.00187	-0.00098	0.01573	-0.00015	-0.00082	4.33573	-0.00047
#2	-0.00044	0.40134	0.00276	-0.00098	0.01601	-0.00014	-0.00429	4.33158	-0.00023
Mean	**-0.00065**	**0.40095**	**0.00231**	**-0.00098**	**0.01587**	**-0.00015**	**-0.00255**	**4.33366**	**-0.00035**
%RSD	46.69366	0.13672	27.13888	0.00000	1.24164	1.84972	96.24560	0.06766	48.12334

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00109	-0.00014	-0.00395	0.22283	-0.12191	-0.00272	1.88796	0.07695	-0.00239
#2	-0.00010	0.00008	-0.00303	0.22221	-0.12903	-0.00273	1.88378	0.07707	-0.00279
Mean	**-0.00060**	**-0.00003**	**-0.00349**	**0.22252**	**-0.12547**	**-0.00273**	**1.88587**	**0.07701**	**-0.00259**
%RSD	117.14999	474.59528	18.70941	0.19651	4.00718	0.26903	0.15683	0.10872	11.09973

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	25.59960	0.00111	0.00722	0.00459	0.00164	0.01548	-0.00185	0.00757	0.00139
#2	25.60885	-0.00090	0.00057	0.00643	-0.00145	0.03107	-0.00437	-0.00645	0.00319
Mean	**25.60423**	**0.00010**	**0.00389**	**0.00551**	**0.00010**	**0.02327**	**-0.00311**	**0.00056**	**0.00229**
%RSD	0.02556	1391.64426	120.81488	23.48988	2276.15840	47.37890	57.23282	1773.09140	55.74370

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.64163	-0.00285	0.01312	0.00761	0.00081	-0.05369	-0.00055	0.02241	-0.00046
#2	0.65149	-0.00241	0.01316	0.00843	0.00094	-0.01222	0.00058	0.02180	0.00027
Mean	**0.64656**	**-0.00263**	**0.01314**	**0.00802**	**0.00088**	**-0.03296**	**0.00001**	**0.02211**	**-0.00009**
%RSD	1.07867	11.75348	0.19389	7.23008	10.91422	88.99078	5862.15544	1.93698	548.79452

	Pb	Seer: MIKE LUNDGREEN
	calc	calc
#1	0.00263	0.00345
#2	0.00117	-0.00002
Mean	**0.00190**	**0.00171**
%RSD	54.11151	142.94746

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:01
SampleId1 : 1201363-11MS **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 16:35:29
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE26

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.09868	4.76942	1.95978	0.49591	2.20318	0.04822	-0.00537	60.90493	0.05210
#2	0.09828	4.77781	1.97443	0.49917	2.20964	0.04835	-0.00768	60.95441	0.05175
Mean	**0.09848**	**4.77362**	**1.96711**	**0.49754**	**2.20641**	**0.04828**	**-0.00652**	**60.92967**	**0.05192**
%RSD	0.28742	0.12430	0.52660	0.46266	0.20697	0.18472	24.98123	0.05742	0.46766

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.48756	0.19897	0.26304	2.30584	50.50187	0.57743	46.95582	0.88503	0.98883
#2	0.48904	0.20032	0.26774	2.31114	50.61312	0.57875	47.11414	0.88622	0.98476
Mean	**0.48830**	**0.19964**	**0.26539**	**2.30849**	**50.55749**	**0.57809**	**47.03498**	**0.88563**	**0.98680**
%RSD	0.21515	0.47712	1.25429	0.16222	0.15560	0.16151	0.23800	0.09500	0.29198

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	162.25698	0.49889	0.06778	0.50062	0.49157	0.19325	0.47037	1.92163	1.89419
#2	161.78894	0.49641	0.05913	0.49941	0.49198	0.19325	0.47099	1.94762	1.90325
Mean	**162.02296**	**0.49765**	**0.06345**	**0.50002**	**0.49177**	**0.19325**	**0.47068**	**1.93463**	**1.89872**
%RSD	0.20427	0.35301	9.64173	0.17038	0.05981	0.00000	0.09323	0.94997	0.33745

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	6.88931	0.51980	0.60860	0.54716	2.04117	-0.05075	0.50004	0.60391	0.00191
#2	6.88060	0.51233	0.60998	0.55162	2.04409	-0.04638	0.49940	0.60300	0.00206
Mean	**6.88495**	**0.51606**	**0.60929**	**0.54939**	**2.04263**	**-0.04857**	**0.49972**	**0.60346**	**0.00198**
%RSD	0.08942	1.02293	0.15978	0.57306	0.10106	6.35135	0.09147	0.10661	5.28818

	Pb	**Se**
	calc	calc
#1	0.49458	1.90333
#2	0.49446	1.91803
Mean	**0.49452**	**1.91068**
%RSD	0.01770	0.54398

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:01

SampleId1 : 1201363-11MSD **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 16:38:09
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE27

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.09999	4.84979	1.98808	0.50094	2.22108	0.04894	-0.00394	61.50034	0.05233
#2	0.09980	4.87479	1.99641	0.50568	2.22424	0.04896	-0.00114	61.48047	0.05229
Mean	**0.09990**	**4.86229**	**1.99224**	**0.50331**	**2.22266**	**0.04895**	**-0.00254**	**61.49040**	**0.05231**
%RSD	0.13635	0.36355	0.29543	0.66525	0.10050	0.02867	77.82238	0.02286	0.04970

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.49325	0.20166	0.26870	2.34058	50.93949	0.58265	47.51824	0.89646	0.99199
#2	0.49383	0.20179	0.26968	2.34152	50.84052	0.58250	47.55469	0.89681	0.99729
Mean	**0.49354**	**0.20173**	**0.26919**	**2.34105**	**50.89000**	**0.58258**	**47.53647**	**0.89663**	**0.99464**
%RSD	0.08308	0.04337	0.25636	0.02823	0.13751	0.01849	0.05422	0.02815	0.37659

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	163.24278	0.50122	0.06734	0.50369	0.50026	0.19949	0.47699	1.93784	1.93349
#2	162.87352	0.49854	0.06734	0.49939	0.49948	0.20261	0.47610	1.94547	1.92739
Mean	**163.05815**	**0.49988**	**0.06734**	**0.50154**	**0.49987**	**0.20105**	**0.47655**	**1.94166**	**1.93044**
%RSD	0.16013	0.37932	0.00000	0.60654	0.11010	1.09695	0.13244	0.27776	0.22341

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	7.14969	0.51540	0.61418	0.55822	2.06608	-0.04095	0.50518	0.61241	0.00162
#2	7.19508	0.52066	0.61499	0.55939	2.08144	-0.04968	0.50539	0.61059	0.00172
Mean	**7.17238**	**0.51803**	**0.61459**	**0.55881**	**2.07376**	**-0.04531**	**0.50528**	**0.61150**	**0.00167**
%RSD	0.44752	0.71865	0.09380	0.14684	0.52378	13.62665	0.03023	0.21043	4.29761

	Pb	Se
	calc	calc
#1	0.50140	1.93494
#2	0.49945	1.93341
Mean	**0.50042**	**1.93418**
%RSD	0.27578	0.05587

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:01
SampleId1 : 1201363-13 **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 16:40:44
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE28

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm

#1	0.00024	1.44649	0.00020	0.01425	0.08748	0.00001	0.00043	20.88990	-0.00013
#2	-0.00180	1.44708	-0.00412	0.01151	0.08755	0.00001	-0.00680	20.81261	-0.00063
Mean	**-0.00078**	**1.44678**	**-0.00196**	**0.01288**	**0.08751**	**0.00001**	**-0.00319**	**20.85125**	**-0.00038**
%RSD	184.69365	0.02916	156.19227	15.01938	0.05629	42.85208	160.31593	0.26209	92.55553

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00149	0.00096	-0.00155	0.94033	0.93938	-0.00041	9.23951	0.39055	0.00046
#2	0.00100	-0.00038	-0.00177	0.93754	0.92516	-0.00038	9.24265	0.38984	-0.00086
Mean	**0.00125**	**0.00029**	**-0.00166**	**0.93894**	**0.93227**	**-0.00040**	**9.24108**	**0.39019**	**-0.00020**
%RSD	27.85178	322.04136	9.31984	0.21012	1.07812	6.49684	0.02399	0.12899	463.82363

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	135.53099	0.00261	0.04094	0.00141	0.00409	0.07473	-0.00052	0.00157	0.00368
#2	135.10150	-0.00035	0.03872	-0.00308	0.00540	0.07785	-0.00303	0.00074	0.00394
Mean	**135.31625**	**0.00113**	**0.03983**	**-0.00083**	**0.00474**	**0.07629**	**-0.00177**	**0.00115**	**0.00381**
%RSD	0.22443	185.48616	3.93837	381.84498	19.57297	2.89062	99.92446	50.44182	4.78239

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	2.90188	-0.00728	0.06811	0.04361	-0.00061	-0.03781	0.00088	0.12930	0.00125
#2	2.89702	-0.00201	0.06802	0.04160	0.00140	-0.05964	0.00099	0.12476	0.00050
Mean	**2.89945**	**-0.00464**	**0.06806**	**0.04260**	**0.00040**	**-0.04872**	**0.00094**	**0.12703**	**0.00087**
%RSD	0.11869	80.12440	0.09361	3.32954	358.77061	31.67659	8.12196	2.52878	60.89817

	Pb	**Se**
	calc	calc
#1	0.00320	0.00298
#2	0.00258	0.00288
Mean	**0.00289**	**0.00293**
%RSD	15.19057	2.47175

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:01
SampleId1 : 1201363-15 **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 16:42:45
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE29

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00010	1.46093	0.00065	0.01395	0.09082	0.00007	0.00206	23.38814	0.00009
#2	-0.00069	1.45549	0.00009	0.01351	0.09103	0.00002	-0.01632	23.41941	-0.00003
Mean	**-0.00029**	**1.45821**	**0.00037**	**0.01373**	**0.09093**	**0.00004**	**-0.00713**	**23.40378**	**0.00003**
%RSD	189.66010	0.26417	105.72478	2.28474	0.16254	90.55535	182.36993	0.09446	280.14124

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00232	0.00029	-0.00046	0.94917	1.10827	-0.00019	9.48770	0.37453	-0.00259

#2	0.00239	0.00033	-0.00095	0.94824	1.11120	-0.00015	9.47987	0.37442	-0.00137
Mean	**0.00235**	**0.00031**	**-0.00071**	**0.94870**	**1.10973**	**-0.00017**	**9.48379**	**0.37447**	**-0.00198**
%RSD	2.27446	9.02764	48.66344	0.06932	0.18646	15.37790	0.05844	0.02240	43.55465

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	129.71648	0.00146	0.05181	0.00582	0.00325	0.13399	0.00145	0.00103	0.00274
#2	129.63076	0.00308	0.05159	0.00105	0.00562	0.13711	0.00000	-0.00178	-0.00199
Mean	**129.67362**	**0.00227**	**0.05170**	**0.00344**	**0.00444**	**0.13555**	**0.00072**	**-0.00037**	**0.00037**
%RSD	0.04674	50.33979	0.30344	98.08474	37.76556	1.62697	141.03539	531.25541	896.59890

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	2.94859	0.00061	0.07932	0.04638	0.00366	-0.03563	0.00153	0.14293	0.00221
#2	2.96677	-0.00071	0.07906	0.04976	0.00422	-0.03454	0.00223	0.14263	0.00116
Mean	**2.95768**	**-0.00005**	**0.07919**	**0.04807**	**0.00394**	**-0.03509**	**0.00188**	**0.14278**	**0.00169**
%RSD	0.43478	1946.48072	0.22531	4.97355	10.03713	2.20084	26.36259	0.15000	43.97863

	Pb	**Se**
	calc	calc
#1	0.00411	0.00217
#2	0.00410	-0.00192
Mean	**0.00410**	**0.00012**
%RSD	0.12215	2328.01080

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:02
SampleId1 : CCV **SampleId2 :** **[CV]**
Analysis commenced : 2/2/2012 16:44:33
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD6

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.21174	51.71560	0.53218	1.00123	1.06338	0.49086	0.52851	50.79601	0.51212
#2	0.21100	51.73992	0.52574	1.00138	1.06163	0.49131	0.53618	51.00946	0.51288
Mean	**0.21137**	**51.72776**	**0.52896**	**1.00130**	**1.06251**	**0.49108**	**0.53234**	**50.90273**	**0.51250**
%RSD	0.24753	0.03324	0.86053	0.01046	0.11632	0.06548	1.01853	0.29652	0.10455

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.49581	1.01414	1.04843	20.31414	51.34962	0.51698	50.17841	1.01216	1.00686
#2	0.49895	1.01708	1.04433	20.36297	51.42118	0.51720	50.28357	1.01478	1.00758
Mean	**0.49738**	**1.01561**	**1.04638**	**20.33855**	**51.38540**	**0.51709**	**50.23099**	**1.01347**	**1.00722**
%RSD	0.44549	0.20434	0.27676	0.16974	0.09846	0.02924	0.14804	0.18278	0.05006

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	47.83492	0.99999	4.97501	1.00972	1.00439	5.17978	0.49455	1.02394	1.00254
#2	47.94731	1.00831	4.96255	1.01998	1.00550	5.14544	0.49254	1.02461	1.00393

Mean	**47.89112**	**1.00415**	**4.96878**	**1.01485**	**1.00494**	**5.16261**	**0.49354**	**1.02428**	**1.00323**
%RSD	0.16595	0.58584	0.17734	0.71504	0.07827	0.47037	0.28871	0.04599	0.09835

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	5.13504	1.04061	0.52760	0.49516	0.52690	5.14425	0.50057	0.98414	1.01031
#2	5.13014	1.04324	0.52820	0.49579	0.53423	5.14968	0.50112	0.98627	1.01289
Mean	**5.13259**	**1.04192**	**0.52790**	**0.49547**	**0.53056**	**5.14696**	**0.50084**	**0.98521**	**1.01160**
%RSD	0.06756	0.17883	0.08001	0.09001	0.97683	0.07455	0.07751	0.15254	0.18050

	Pb	**Se**
	calc	calc
#1	1.00616	1.00967
#2	1.01032	1.01082
Mean	**1.00824**	**1.01024**
%RSD	0.29170	0.08067

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:02
SampleId1 : CCB **SampleId2 :** **[CB]**
Analysis commenced : 2/2/2012 16:46:42
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD2

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00010	0.15457	-0.00168	-0.00239	-0.00001	0.00010	-0.00059	-0.04025	-0.00020
#2	-0.00081	0.15259	-0.00168	-0.00254	-0.00022	0.00011	-0.00967	-0.04251	-0.00046
Mean	**-0.00035**	**0.15358**	**-0.00168**	**-0.00246**	**-0.00012**	**0.00010**	**-0.00513**	**-0.04138**	**-0.00033**
%RSD	182.05018	0.91122	0.00000	4.24636	125.04034	3.97564	125.09750	3.85506	56.26456

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00019	0.00104	-0.00350	0.01636	-0.29424	-0.00304	0.03586	0.00036	-0.00056
#2	-0.00052	-0.00050	-0.00324	0.01512	-0.29592	-0.00309	0.03064	0.00024	-0.00035
Mean	**-0.00035**	**0.00027**	**-0.00337**	**0.01574**	**-0.29508**	**-0.00306**	**0.03325**	**0.00030**	**-0.00046**
%RSD	66.61191	408.11574	5.47579	5.55289	0.40094	0.95773	11.12094	27.79609	31.55404

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.07890	-0.00110	-0.00742	0.00159	-0.00104	0.00300	0.00040	-0.00281	-0.00390
#2	-0.08439	-0.00153	-0.00897	-0.00084	-0.00326	-0.01571	-0.00183	0.01378	-0.00072
Mean	**-0.08165**	**-0.00132**	**-0.00819**	**0.00037**	**-0.00215**	**-0.00636**	**-0.00072**	**0.00548**	**-0.00231**
%RSD	4.75159	23.28193	13.39863	459.60898	72.88939	208.20428	219.59231	213.99621	97.40871

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.01948	0.00417	-0.00179	-0.00194	0.00409	-0.02627	0.00000	-0.00423	0.00023
#2	-0.01903	-0.00109	-0.00187	-0.00190	0.00588	-0.04373	-0.00076	-0.00181	-0.00039
Mean	**-0.01926**	**0.00154**	**-0.00183**	**-0.00192**	**0.00498**	**-0.03500**	**-0.00038**	**-0.00302**	**-0.00008**

%RSD	1.63981	240.83196	2.78468	1.39289	25.37223	35.28138	141.68909	56.64495	546.59103

	Pb	Se
	calc	calc
#1	-0.00017	-0.00354
#2	-0.00245	0.00411
Mean	**-0.00131**	**0.00028**
%RSD	123.56403	1901.38320

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:02
SampleId1 : 1201363-17 **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 16:48:59
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE30

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00024	1.48002	0.00587	0.00796	0.08532	0.00016	-0.00260	19.19576	-0.00047
#2	-0.00061	1.48206	-0.00301	0.00848	0.08532	0.00015	-0.01285	19.09725	-0.00009
Mean	**-0.00019**	**1.48104**	**0.00143**	**0.00822**	**0.08532**	**0.00015**	**-0.00772**	**19.14651**	**-0.00028**
%RSD	320.91015	0.09770	440.42472	4.45140	0.00000	3.64568	93.74782	0.36380	96.75668

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00190	0.00108	-0.00215	0.92204	0.86454	-0.00073	7.66193	0.28180	-0.00218
#2	0.00149	0.00022	-0.00213	0.91770	0.85158	-0.00080	7.65305	0.28121	-0.00239
Mean	**0.00170**	**0.00065**	**-0.00214**	**0.91987**	**0.85806**	**-0.00077**	**7.65749**	**0.28150**	**-0.00228**
%RSD	17.38972	93.79695	0.69548	0.33360	1.06804	6.70309	0.08204	0.14890	6.29044

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	133.94292	0.00123	0.04316	0.00168	0.00423	0.14335	0.00025	0.00344	0.00265
#2	133.19879	0.00182	0.04116	0.00341	0.00805	0.13399	-0.00331	0.00851	0.00093
Mean	**133.57086**	**0.00152**	**0.04216**	**0.00254**	**0.00614**	**0.13867**	**-0.00153**	**0.00598**	**0.00179**
%RSD	0.39394	27.48439	3.34873	48.29627	44.02142	4.77112	164.82299	59.96112	68.10639

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	2.94664	-0.00026	0.06776	0.04218	-0.00423	-0.03780	0.00109	0.12355	0.00177
#2	2.98220	-0.00421	0.06724	0.04426	0.00182	-0.05744	0.00061	0.12203	0.00122
Mean	**2.96442**	**-0.00223**	**0.06750**	**0.04322**	**-0.00121**	**-0.04762**	**0.00085**	**0.12279**	**0.00149**
%RSD	0.84820	124.94734	0.54746	3.40576	355.24993	29.16828	40.45912	0.87202	26.37876

	Pb	Se
	calc	calc
#1	0.00338	0.00291
#2	0.00651	0.00345
Mean	**0.00494**	**0.00318**
%RSD	44.75414	12.01239

ted: 2/2/2012 17:36:05 User: MIKE LUNDGREEN
Method : Paragon File : 120202A Printed : 2/2/2012 17:36:02
SampleId1 : 1201363-19 SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:50:52
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE31

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00155	1.90881	0.00076	0.00759	0.10288	0.00022	-0.01491	22.16885	-0.00042
#2	-0.00070	1.90447	0.00120	0.00833	0.10322	0.00020	-0.00606	22.27058	0.00045
Mean	**-0.00112**	**1.90664**	**0.00098**	**0.00796**	**0.10305**	**0.00021**	**-0.01048**	**22.21972**	**0.00002**
%RSD	53.73409	0.16089	31.98098	6.56580	0.23904	6.83572	59.72477	0.32375	3984.51609

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.00149	0.00041	-0.00130	1.88668	1.02633	-0.00034	9.93653	0.34832	-0.00035
#2	0.00189	0.00072	-0.00095	1.89415	1.06229	-0.00033	9.94854	0.34927	-0.00188
Mean	**0.00169**	**0.00057**	**-0.00113**	**1.89042**	**1.04431**	**-0.00033**	**9.94253**	**0.34880**	**-0.00112**
%RSD	16.97181	38.82870	21.91262	0.27925	2.43432	1.10163	0.08546	0.19235	96.58271

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	135.52481	0.00304	0.06445	0.00483	0.00476	0.09345	-0.00290	-0.00061	0.00224
#2	135.48142	0.00265	0.06268	0.00431	0.00499	0.08409	-0.00318	-0.00087	0.00353
Mean	**135.50312**	**0.00284**	**0.06356**	**0.00457**	**0.00488**	**0.08877**	**-0.00304**	**-0.00074**	**0.00289**
%RSD	0.02264	9.80848	1.97434	8.07348	3.24887	7.45316	6.47460	24.43543	31.64202

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	3.69161	0.00235	0.07422	0.05644	-0.00097	-0.04391	0.00133	0.15081	0.00193
#2	3.69522	-0.00247	0.07445	0.06013	0.00399	-0.03082	0.00279	0.15111	0.00174
Mean	**3.69342**	**-0.00006**	**0.07433**	**0.05828**	**0.00151**	**-0.03737**	**0.00206**	**0.15096**	**0.00184**
%RSD	0.06908	5707.79755	0.22288	4.48469	231.70838	24.77574	49.97527	0.14187	7.10041

	Pb	Se
	calc	calc
#1	0.00479	0.00129
#2	0.00476	0.00207
Mean	**0.00477**	**0.00168**
%RSD	0.36210	32.70467

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:03
SampleId1 : ZZZ SampleId2 : [FLEXQC]
Analysis commenced : 2/2/2012 16:52:46
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD3

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.02019	0.56956	0.01297	0.40550	0.41708	0.01179	0.04782	5.09026	0.01158
#2	0.02046	0.56662	0.01186	0.40402	0.41770	0.01175	0.04526	5.07517	0.01187
Mean	**0.02033**	**0.56809**	**0.01241**	**0.40476**	**0.41739**	**0.01177**	**0.04654**	**5.08272**	**0.01172**
%RSD	0.92967	0.36535	6.32225	0.25847	0.10635	0.25275	3.89129	0.20988	1.75462

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.10048	0.02191	0.04829	0.20056	3.41802	0.01239	4.96349	0.03161	0.01977
#2	0.10089	0.02132	0.04830	0.19995	3.41676	0.01238	4.96193	0.03149	0.02028
Mean	**0.10069**	**0.02161**	**0.04829**	**0.20025**	**3.41739**	**0.01239**	**4.96271**	**0.03155**	**0.02002**
%RSD	0.29027	1.93797	0.00858	0.21834	0.02592	0.08882	0.02234	0.26531	1.79457

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	3.72213	0.08251	0.20204	0.00537	0.00554	0.19637	0.12144	0.00594	0.01067
#2	3.72752	0.08358	0.19916	0.00692	0.00420	0.21197	0.12290	0.00446	0.01024
Mean	**3.72482**	**0.08304**	**0.20060**	**0.00614**	**0.00487**	**0.20417**	**0.12217**	**0.00520**	**0.01045**
%RSD	0.10230	0.90671	1.01724	17.80819	19.48900	5.40098	0.84780	20.10763	2.90946

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.10077	0.10192	0.02020	0.01914	0.02874	0.19736	0.10266	0.04754	0.05288
#2	0.09938	0.09929	0.02031	0.01928	0.01918	0.19190	0.10293	0.04875	0.05321
Mean	**0.10007**	**0.10061**	**0.02025**	**0.01921**	**0.02396**	**0.19463**	**0.10280**	**0.04814**	**0.05304**
%RSD	0.98075	1.84921	0.37735	0.51081	28.20828	1.98256	0.18558	1.77886	0.44096

	Pb	Se
	calc	calc
#1	0.00549	0.00909
#2	0.00511	0.00831
Mean	**0.00530**	**0.00870**
%RSD	5.07956	6.32957

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:03
SampleId1 : 1201354-1A SampleId2 : [SAMPLE]
Analysis commenced : 2/2/2012 16:58:45
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE32

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00181	60.71775	2.04091	0.99338	5.04354	0.05284	0.00020	121.98443	0.05359
#2	-0.00177	60.51100	2.03336	0.98657	5.01568	0.05273	-0.00096	121.67875	0.05352
Mean	**-0.00179**	**60.61438**	**2.03714**	**0.98998**	**5.02961**	**0.05279**	**-0.00038**	**121.83159**	**0.05355**
%RSD	1.75904	0.24118	0.26195	0.48645	0.39170	0.14440	218.39178	0.17742	0.09220

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo

	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.52149	0.24119	0.33655	111.46442	54.93582	0.60946	59.13733	2.05151	1.02357
#2	0.52162	0.24101	0.33591	111.18333	54.61698	0.60583	59.02184	2.04684	1.02459
Mean	**0.52156**	**0.24110**	**0.33623**	**111.32388**	**54.77640**	**0.60764**	**59.07959**	**2.04918**	**1.02408**
%RSD	0.01798	0.05120	0.13370	0.17854	0.41159	0.42326	0.13822	0.16125	0.07034

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	46.85944	0.54061	2.22860	0.63121	0.62882	5.55131	0.47986	2.01666	1.99498
#2	46.56271	0.53876	2.22322	0.63467	0.62076	5.57941	0.47668	2.02169	2.01514
Mean	**46.71107**	**0.53969**	**2.22591**	**0.63294**	**0.62479**	**5.56536**	**0.47827**	**2.01917**	**2.00506**
%RSD	0.44919	0.24284	0.17074	0.38664	0.91278	0.35703	0.46928	0.17629	0.71116

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	3.47278	0.52145	0.91236	0.63062	2.07545	0.34208	1.26230	1.54692	0.05185
#2	3.45623	0.52014	0.90749	0.62755	2.05661	0.37174	1.25982	1.54084	0.05209
Mean	**3.46451**	**0.52080**	**0.90993**	**0.62908**	**2.06603**	**0.35691**	**1.26106**	**1.54388**	**0.05197**
%RSD	0.33772	0.17827	0.37836	0.34592	0.64503	5.87657	0.13906	0.27858	0.32908

	Pb	**Se**
	calc	calc
#1	0.62962	2.00220
#2	0.62539	2.01732
Mean	**0.62750**	**2.00976**
%RSD	0.47632	0.53221

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:03
SampleId1 : 1201354-13 5X **SampleId2 :** **[SAMPLE]**
Analysis commenced : 2/2/2012 17:00:39
Dilution ratio : 1.00000 to 1.00000 Tray : Position : TUBE33

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00067	11.26495	0.01752	-0.00113	0.19458	0.00122	-0.00067	8.70587	-0.00043
#2	-0.00083	11.26049	0.01352	0.00123	0.19444	0.00118	-0.00369	8.71079	-0.00016
Mean	**-0.00075**	**11.26272**	**0.01552**	**0.00005**	**0.19451**	**0.00120**	**-0.00218**	**8.70833**	**-0.00030**
%RSD	14.30175	0.02799	18.20301	3251.43292	0.05067	1.93795	97.91234	0.03990	64.39492

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.01293	0.01428	0.01463	51.31836	3.16159	0.00701	5.21805	0.52074	-0.00025
#2	0.01211	0.01387	0.01496	51.23023	3.17412	0.00702	5.19714	0.52026	-0.00279
Mean	**0.01252**	**0.01407**	**0.01479**	**51.27429**	**3.16785**	**0.00701**	**5.20760**	**0.52050**	**-0.00152**
%RSD	4.65531	2.07048	1.58929	0.12154	0.27968	0.05230	0.28390	0.06452	117.99363

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm

#1	0.08531	0.01326	0.82913	0.01901	0.02240	3.78131	0.00105	-0.01195	0.00279
#2	0.08574	0.01464	0.82935	0.02241	0.02020	3.75946	-0.00121	-0.00321	0.00440
Mean	**0.08553**	**0.01395**	**0.82924**	**0.02071**	**0.02130**	**3.77039**	**-0.00008**	**-0.00758**	**0.00360**
%RSD	0.35459	6.99923	0.01898	11.63000	7.30777	0.40974	2123.15072	81.60344	31.76988

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.84764	-0.00246	0.07549	0.05116	0.00716	-0.00117	0.03661	0.07328	0.00811
#2	0.87919	0.00192	0.07531	0.05058	0.01197	0.02727	0.03611	0.07509	0.00800
Mean	**0.86341**	**-0.00027**	**0.07540**	**0.05087**	**0.00957**	**0.01305**	**0.03636**	**0.07419**	**0.00806**
%RSD	2.58389	1146.71854	0.16901	0.80667	35.53964	154.08086	0.97808	1.73178	1.01855

	Pb	**Se**
	calc	calc
#1	0.02127	-0.00212
#2	0.02094	0.00187
Mean	**0.02110**	**-0.00012**
%RSD	1.11990	2258.54964

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:03
SampleId1 : CRI **SampleId2 :** **[FLEXQC]**
Analysis commenced : 2/2/2012 17:02:40
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD3

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.02008	0.54549	0.01053	0.40484	0.41129	0.01177	0.05200	5.14080	0.01119
#2	0.02000	0.54948	0.01497	0.40099	0.41205	0.01174	0.04898	5.15212	0.01126
Mean	**0.02004**	**0.54748**	**0.01275**	**0.40292**	**0.41167**	**0.01176**	**0.05049**	**5.14646**	**0.01123**
%RSD	0.28167	0.51544	24.62840	0.67511	0.13179	0.17776	4.23129	0.15547	0.44577

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.10154	0.02133	0.04795	0.20520	3.49486	0.01235	4.95827	0.03184	0.02028
#2	0.10105	0.02211	0.04781	0.20582	3.49068	0.01242	4.96977	0.03208	0.01946
Mean	**0.10130**	**0.02172**	**0.04788**	**0.20551**	**3.49277**	**0.01239**	**4.96402**	**0.03196**	**0.01987**
%RSD	0.34502	2.55560	0.20461	0.21276	0.08454	0.44410	0.16381	0.52375	2.89333

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	3.68058	0.08172	0.19894	0.00885	0.00653	0.21509	0.11999	0.01368	0.01110
#2	3.68953	0.08322	0.19738	0.00987	0.00838	0.20261	0.11998	0.01343	0.01144
Mean	**3.68506**	**0.08247**	**0.19816**	**0.00936**	**0.00746**	**0.20885**	**0.11999**	**0.01355**	**0.01127**
%RSD	0.17176	1.28496	0.55449	7.72731	17.51030	4.22400	0.00815	1.31674	2.15760

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.09493	0.10148	0.01998	0.01939	0.02705	0.17443	0.10212	0.04845	0.05194

#2	0.09672	0.10894	0.01995	0.01942	0.02750	0.19081	0.10320	0.04814	0.05251
Mean	**0.09583**	**0.10521**	**0.01996**	**0.01941**	**0.02728**	**0.18262**	**0.10266**	**0.04830**	**0.05223**
%RSD	1.32056	5.00988	0.12760	0.09194	1.18954	6.33914	0.74369	0.44332	0.77027

	Pb	**Se**
	calc	calc
#1	0.00730	0.01196
#2	0.00888	0.01210
Mean	**0.00809**	**0.01203**
%RSD	13.74069	0.85427

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:03
SampleId1 : ICSA **SampleId2 :** **[FLEXQC]**
Analysis commenced : 2/2/2012 17:04:39
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD4

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00192	260.36265	-0.00301	-0.00505	-0.00099	0.00050	0.00081	259.41016	-0.00084
#2	-0.00219	259.35871	-0.00079	-0.00527	-0.00071	0.00047	0.00732	258.53680	-0.00053
Mean	**-0.00205**	**259.86068**	**-0.00190**	**-0.00516**	**-0.00085**	**0.00048**	**0.00406**	**258.97348**	**-0.00068**
%RSD	9.15084	0.27318	82.43304	3.03895	23.19043	5.23202	113.35159	0.23846	31.93536

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00085	-0.00248	-0.00766	104.60093	-0.41053	-0.00304	262.26165	0.00107	-0.00472
#2	-0.00135	-0.00312	-0.00827	104.18100	-0.41304	-0.00303	261.22845	0.00083	-0.00533
Mean	**-0.00110**	**-0.00280**	**-0.00796**	**104.39097**	**-0.41178**	**-0.00304**	**261.74505**	**0.00095**	**-0.00503**
%RSD	31.86698	16.08432	5.39757	0.28444	0.43099	0.12084	0.27912	17.58122	8.57408

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.12211	-0.00106	-0.00342	-0.00384	0.00170	0.04666	-0.00396	-0.01288	0.00730
#2	-0.11979	-0.00236	-0.00342	-0.01375	0.00502	0.03107	-0.00647	-0.03356	0.00601
Mean	**-0.12095**	**-0.00171**	**-0.00342**	**-0.00879**	**0.00336**	**0.03887**	**-0.00521**	**-0.02322**	**0.00666**
%RSD	1.35299	53.75549	0.00000	79.72955	69.78967	28.37001	34.03731	62.98164	13.69711

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.03746	-0.00547	-0.00055	-0.00043	0.01752	0.01603	-0.01142	-0.00363	0.00198
#2	-0.03635	-0.00503	-0.00059	-0.00046	0.00979	0.01850	-0.01075	-0.00454	0.00178
Mean	**-0.03690**	**-0.00525**	**-0.00057**	**-0.00045**	**0.01365**	**0.01727**	**-0.01109**	**-0.00408**	**0.00188**
%RSD	2.13140	5.90267	4.47957	6.00993	40.03972	10.10989	4.30244	15.72915	7.61271

	Pb	**Se**
	calc	calc
#1	-0.00014	0.00058
#2	-0.00123	-0.00717

Mean	-0.00069	-0.00329er: MIKE LUNDGREEN
%RSD	112.14307	166.36241

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:03
SampleId1 : ICSAB **SampleId2 :** **[FLEXQC]**
Analysis commenced : 2/2/2012 17:06:58
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD5

Final concentrations

	Ag	**Al**	**As**	**B**	**Ba**	**Be**	**Bi**	**Ca**	**Cd**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.20352	209.54168	0.10376	1.00678	0.53889	0.47958	0.54017	261.87315	1.00863
#2	0.20163	209.12352	0.10287	1.00826	0.53729	0.47883	0.54085	261.20539	1.00274
Mean	**0.20257**	**209.33260**	**0.10331**	**1.00752**	**0.53809**	**0.47920**	**0.54051**	**261.53927**	**1.00569**
%RSD	0.65986	0.14125	0.60771	0.10391	0.21092	0.11020	0.08969	0.18054	0.41404

	Co	**Cr**	**Cu**	**Fe**	**K**	**Li**	**Mg**	**Mn**	**Mo**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.48152	0.48921	0.54418	105.37331	-0.36242	1.05187	262.76008	0.50637	0.98303
#2	0.48169	0.48823	0.54312	105.19231	-0.35950	1.04809	262.35255	0.50542	0.98191
Mean	**0.48161**	**0.48872**	**0.54365**	**105.28281**	**-0.36096**	**1.04998**	**262.55631**	**0.50590**	**0.98247**
%RSD	0.02424	0.14139	0.13726	0.12157	0.57360	0.25425	0.10975	0.13274	0.08065

	Na	**Ni**	**P**	**Pb I**	**Pb II**	**S**	**Sb**	**Se I**	**Se II**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.11902	0.98087	0.99034	0.04575	0.05354	1.05728	0.58567	0.04063	0.05074
#2	-0.10676	0.98260	0.97698	0.05026	0.05339	1.07911	0.57983	0.03340	0.05216
Mean	**-0.11289**	**0.98173**	**0.98366**	**0.04801**	**0.05347**	**1.06819**	**0.58275**	**0.03701**	**0.05145**
%RSD	7.67751	0.12496	0.96073	6.64925	0.19961	1.44549	0.70837	13.80490	1.96028

	Si	**Sn**	**Sr**	**Ti**	**Tl**	**U**	**V**	**Zn**	**Zr**
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.99667	1.03258	1.05797	0.97218	0.11380	10.55126	0.48808	0.92798	0.49299
#2	0.99349	1.02028	1.05449	0.97113	0.11067	10.52299	0.48729	0.92676	0.49189
Mean	**0.99508**	**1.02643**	**1.05623**	**0.97166**	**0.11223**	**10.53712**	**0.48768**	**0.92737**	**0.49244**
%RSD	0.22578	0.84728	0.23263	0.07617	1.97627	0.18976	0.11461	0.09259	0.15790

	Pb	**Se**
	calc	calc
#1	0.05095	0.04737
#2	0.05235	0.04591
Mean	**0.05165**	**0.04664**
%RSD	1.92012	2.20575

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:04
SampleId1 : CCV **SampleId2 :** **[CV]**
Analysis commenced : 2/2/2012 17:09:05
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD6

Final concentrations:06 **User: MIKE LUNDGREEN**

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.21185	51.65307	0.52618	1.00316	1.05877	0.48782	0.52685	50.86109	0.51229
#2	0.21325	51.43325	0.52308	1.00005	1.05297	0.48762	0.53987	50.72550	0.50882
Mean	**0.21255**	**51.54316**	**0.52463**	**1.00160**	**1.05587**	**0.48772**	**0.53336**	**50.79329**	**0.51055**
%RSD	0.46506	0.30156	0.41886	0.21950	0.38860	0.02857	1.72562	0.18875	0.47997

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	0.49523	1.01076	1.04548	20.29528	51.15704	0.51371	50.21746	1.00716	1.00534
#2	0.49473	1.01028	1.04223	20.23820	50.88632	0.51072	50.05606	1.00716	1.00116
Mean	**0.49498**	**1.01052**	**1.04386**	**20.26674**	**51.02168**	**0.51222**	**50.13676**	**1.00716**	**1.00325**
%RSD	0.07152	0.03346	0.22024	0.19916	0.37518	0.41327	0.22762	0.00000	0.29438

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	47.84778	1.00153	4.93151	1.01242	1.00284	5.14544	0.49497	1.01305	0.98773
#2	47.66714	1.00456	4.91860	1.00810	0.99687	5.08924	0.49813	1.01360	0.98953
Mean	**47.75746**	**1.00304**	**4.92505**	**1.01026**	**0.99985**	**5.11734**	**0.49655**	**1.01332**	**0.98863**
%RSD	0.26746	0.21403	0.18539	0.30259	0.42191	0.77650	0.44990	0.03830	0.12922

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	5.09915	1.03622	0.52681	0.49242	0.52360	5.09076	0.49776	0.97564	1.00909
#2	5.09060	1.03007	0.52413	0.49107	0.54628	5.09408	0.49823	0.97868	1.00546
Mean	**5.09488**	**1.03314**	**0.52547**	**0.49175**	**0.53494**	**5.09242**	**0.49799**	**0.97716**	**1.00727**
%RSD	0.11877	0.42083	0.36050	0.19407	2.99688	0.04602	0.06738	0.21971	0.25436

	Pb	Se
	calc	calc
#1	1.00603	0.99616
#2	1.00061	0.99755
Mean	**1.00332**	**0.99685**
%RSD	0.38190	0.09845

Method : Paragon File : 120202A Printed : 2/2/2012 17:36:04
SampleId1 : CCB **SampleId2 :** **[CB]**
Analysis commenced : 2/2/2012 17:10:58
Dilution ratio : 1.00000 to 1.00000 Tray : Position : STD2

Final concentrations

	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00056	0.26650	0.00265	0.00020	0.00117	0.00103	-0.00222	0.07782	0.00040
#2	-0.00070	0.22775	-0.00324	-0.00039	0.00075	0.00076	0.00081	0.03570	0.00068
Mean	**-0.00063**	**0.24713**	**-0.00029**	**-0.00010**	**0.00096**	**0.00090**	**-0.00070**	**0.05676**	**0.00054**
%RSD	15.19194	11.08673	1411.06685	433.77828	30.73605	21.59662	303.50254	52.46665	37.06518

ted: 2/2/2012 17:36:06 User: MIKE LUNDGREEN

	Co	Cr	Cu	Fe	K	Li	Mg	Mn	Mo
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.00060	0.00187	-0.00204	0.06425	-0.26538	-0.00270	0.15196	0.00166	0.00198
#2	-0.00085	0.00080	-0.00253	0.04911	-0.29131	-0.00289	0.11483	0.00131	-0.00056
Mean	**-0.00072**	**0.00134**	**-0.00228**	**0.05668**	**-0.27835**	**-0.00279**	**0.13339**	**0.00148**	**0.00071**
%RSD	24.21491	56.93275	15.20288	18.89021	6.58811	4.86155	19.68153	16.91123	251.88550

	Na	Ni	P	Pb I	Pb II	S	Sb	Se I	Se II
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.05996	0.00166	0.00500	0.00425	-0.00029	-0.00324	-0.00052	0.00534	0.00015
#2	-0.08319	-0.00090	0.00012	0.00000	-0.00015	-0.00636	0.00331	-0.00202	0.00152
Mean	**-0.07157**	**0.00038**	**0.00256**	**0.00213**	**-0.00022**	**-0.00480**	**0.00139**	**0.00166**	**0.00084**
%RSD	22.95256	479.20183	134.58831	141.21894	42.03095	45.98375	194.09834	312.81483	115.93188

	Si	Sn	Sr	Ti	Tl	U	V	Zn	Zr
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
#1	-0.01289	0.00505	-0.00096	-0.00091	0.00096	-0.03285	0.00141	0.00091	0.00209
#2	-0.01347	-0.00416	-0.00129	-0.00127	0.01242	-0.02629	0.00109	-0.00121	0.00170
Mean	**-0.01318**	**0.00045**	**-0.00113**	**-0.00109**	**0.00669**	**-0.02957**	**0.00125**	**-0.00015**	**0.00189**
%RSD	3.10722	1454.06129	20.34173	23.76226	121.13656	15.68532	18.48638	1017.48426	14.40696

	Pb	Se
	calc	calc
#1	0.00123	0.00188
#2	-0.00010	0.00035
Mean	**0.00056**	**0.00111**
%RSD	167.07808	97.50239

Header Information for Analytical Sequence 12B03m00

Instrument: Agilent ICPMS Model 7700X; Serial No. JP09400112
Software Revision: B.01.01
Date of Analysis: 02/03/2012
Analyst: Ross Miller

Calibration Standards

High Calibration Standard: ST100324-6 (expires 2/28/2015)
This standard contains the following elements at the listed concentrations (ng/ml).

100000	50000	10000	5000	2000	1000	500	200	100	50	30	10	2
Na	Ca	Mg	Fe	Zn	B	Cr	Mn	V	Pb	Sb	Th	Tl
	K		Al	Ti	Cu	Ni		Co	Be	Cd	U	
					Li	Sn		As		Y	Ag	
								Se		La		
								Mo		Ce		
								Ba		Pr		
								Sr		Nd		

1/10,1/100, and 1/1000 dilutions of the High Calibration Standard are prepared daily to provide additional calibration standards.

ICV

The ICV is prepared by diluting 1ml of the 2nd Source intermediate (ST110707-8, expires 06/20/2012) to 5ml giving the following concentrations (ng/ml).

20000	10000	2000	1000	400	200	100	40	20	10	6	2	0.4
Na	Ca	Mg	Fe	Zn	B	Cr	Mn	V	Pb	Sb	Th	Tl
	K		Al	Ti	Cu	Ni		Co	Be	Cd	U	
					Li	Sn		As		Y	Ag	
								Se		La		
								Mo		Ce		
								Ba		Pr		
								Sr		Nd		

CRI1

The RL1 is prepared by diluting 0.05ml of the Reporting Limit Verification Spike Solution (ST100324-9 expires 2/28/2015) to 50ml giving the following concentrations (ng/ml).

100	50	10	5	2	1	0.5	0.2	0.1	0.05	0.03	0.02	0.01
Na	Ca	Mg	Al	Zn	B	Cr	Mn	V	Pb	Sb	Th	U
	K		Fe	Ti	Cu	Ni		Co	Be	Cd	Tl	Ag
					Li	Sn		As		Y		
								Se		La		
								Mo		Ce		
								Ba		Pr		
								Sr		Nd		

CRI2

The RL2 is prepared by diluting 0.1ml of the Reporting Limit Verification Spike Solution (ST100324-9 expires 2/28/2015) to 50ml giving the following concentrations (ng/ml).

200	100	20	10	4	2	1	0.4	0.2	0.1	0.06	0.04	0.02
Na	Ca	Mg	Al	Zn	B	Cr	Mn	V	Pb	Sb	Th	U
	K		Fe	Ti	Cu	Ni		Co	Be	Cd	Tl	Ag
					Li	Sn		As		Y		
								Se		La		
								Mo		Ce		
								Ba		Pr		
								Sr		Nd		

ICSA

The ICSA is prepared by diluting 0.5ml of ICSA intermediate (ST111103-1, expires 12/01/12) to a final volume of 50ml giving the following concentrations (ng/ml).

42.5×10^6	30000	25000	20000	10000	200
Cl	Ca	Fe	C	Al	Mo
		Na		K	Ti
				Mg	
				P	
				S	

ICSAB

The ICSAB is prepared by diluting 0.5ml of ICSA intermediate (ST111103-1, expires 12/01/12) and 5ml of High Calibration Standard: ST100324-6 (expires 2/28/2015) to a final volume of 50ml. The ICSAB contains the following elements at the listed concentrations (ng/ml).

42.5×10^6	35000	25500	20000	15000	11000	10500	10000	400	210
Cl	Ca	Fe	C	K	Mg	Al	P	Ti	Mo
	Na						S		

200	100	50	20	10	5	3	1	0.2
Zn	B	Cr	Mn	V	Pb	Sb	Th	Tl
	Cu	Ni		Co	Be	Cd	U	
	Li	Sn		As		Y	Ag	
				Se		La		
				Ba		Ce		
				Sr		Pr		
						Nd		

CCV

The CCV is prepared by diluting 5ml of the High Calibration Standard: ST100324-6 (expires 2/28/2015) to a final volume of 50ml. The CCV contains the following elements at the listed concentrations (ng/ml).

10000	5000	1000	500	200	100	50	20	10	5	3	1	0.2
Na	Ca	Mg	Fe	Zn	B	Cr	Mn	V	Pb	Sb	Th	Tl
	K		Al	Ti	Cu	Ni		Co	Be	Cd	U	
					Li	Sn		As		Y	Ag	
								Se		La		
								Mo		Ce		
								Ba		Pr		
								Sr		Nd		

Linear Dynamic Range Standards

LDR-Ca,Na,K

The LDR-Ca,Na,K standard is prepared by diluting 1ml of the High Calibration Standard Intermediate Mix (ST100324-5, expires 2/28/2015) to a final volume of 10ml. The LDR-Ca,Na,K standard contains the following elements at the listed concentrations (ng/ml).

100000	50000	20000	10000	5000	2000	1000	500	300	100	20
Mg	Fe	Zn	B	Cr	Mn	V	Pb	Sb	Th	Tl
	Al	Ti	Cu	Ni		Co	Be	Cd	U	
			Li	Sn		As		Y	Ag	
						Se		La		
						Mo		Ce		
						Ba		Pr		
						Sr		Nd		

1000 Na

The 1000 Na standard is prepared by diluting 1ml of the 10000mg/L Na stock solution (ST100301-26, expires 2/28/2015) to a final volume of 10ml. The 1000 Na standard contains Na at 1000000 ng/ml.

500 Ca

The 500 Ca standard is prepared by diluting 0.5ml of the 10000mg/L Ca stock solution (ST100301-9, expires 2/28/2015) to a final volume of 10ml. The 500 Ca standard contains Ca at 500000 ng/ml.

500 K

The 500 K standard is prepared by diluting 0.5ml of the 10000mg/L K stock solution (ST100301-22, expires 2/28/2015) to a final volume of 10ml. The 500 K standard contains K at 500000 ng/ml.

Linear Dynamic Range

The instrument Linear Dynamic Range (LDR) is determined at least every 6 months. The current LDR was determined on 9/22/2011 The instrument LDR is given below (ng/ml).

1000000	500000	100000	50000	20000	10000	5000	2000	1000	500	300	100	20
Na	Ca	Mg	Fe	Zn	B	Cr	Mn	V	Pb	Sb	Th	Tl
	K		Al	Ti	Cu	Ni		Co	Be	Cd	U	
					Li	Sn		As		Y	Ag	
								Se		La		
								Mo		Ce		
								Ba		Pr		
								Sr		Nd		

ICB/CCB and all diluent

1% HNO_3, 1%HCl in double deionized water

HNO_3 Lot No. K23022
HCl Lot No. K33031

Internal Standards

The internal standard intermediate contains 2 PPM each of Ga, Ge and Pt; 1 PPM each of In and Rh and 0.5 PPM of Bi. This intermediate is added to all standards and samples in the same proportion of 1 on top of 100. Most often this is done by adding 0.05ml of internal standard intermediate on top of 5ml of sample or standard. The final concentration of internal standard added to the standards or samples is about 20ppb each of Ga, Ge and Pt; 10ppb each of In and Rh; and 5ppb of Bi.

Pipet ID Numbers

1.0 to 5.0 ml -- M-66
0.1 to 1.0ml -- M-60
0.01 to 0.1ml -- M-56
0.5ml -- M-14

Dilutions

2X dilutions made by diluting 5ml of sample to 10ml final volume
5X dilutions made by diluting 1ml of sample to 5ml final volume
10X dilutions made by diluting 1ml of sample to 10ml final volume
50X dilutions made by diluting 0.1ml of sample to 5ml final volume
100X dilutions made by diluting 0.1ml of sample to 10ml final volume
200X dilutions made by diluting 0.05ml of sample to 10ml final volume
500X dilutions made by diluting 0.02ml of sample to 10ml final volume

Analytical Spikes

None in this sequence.

Daily Maintenance Items

1. Check / change pump tubing
2. Check / clean drain containers
3. Tune instrument per manufacturer's procedures
4. Perform resolution / mass calibration / stability test and print QC tune report

Monthly Maintenance Items

1. Check / clean torch and cones
2. Check / clean nebulizer and spray chamber
3. Check / fill water recirculating reservoir
4. Check / fill vacuum pump oil

Additional Comments

No additional comments.

QC Tune Report

Data File: C:\ICPMH\1\7500\QCTUNE.D
Date Acquired: 3 Feb 2012 08:38:47 am
Operator:
Misc Info:
Vial Number: 0
Current Method: C:\ICPMH\1\METHODS\2008TUNE.m

Minimum Response(CPS)

Element	Actual	Required	Flag

RSD (%)

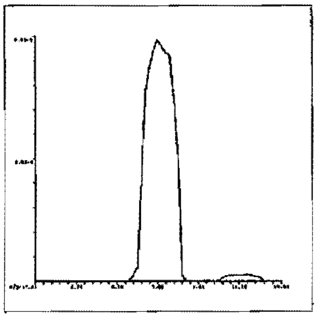
Element	Actual	Required	Flag
9 Be	0.92	5.00	
24 Mg	0.46	5.00	
25 Mg	0.61	5.00	
26 Mg	1.35	5.00	
59 Co	0.60	5.00	
115 In	0.63	5.00	
206 Pb	0.91	5.00	
207 Pb	0.62	5.00	
208 Pb	1.32	5.00	

Ion Ratio

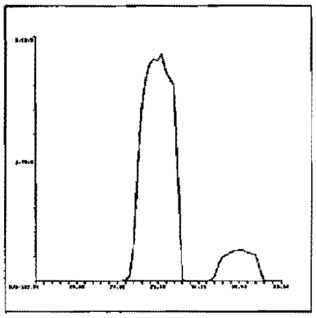
Element	Actual	Required	Flag

Maximum Bkg. Count(CPS)

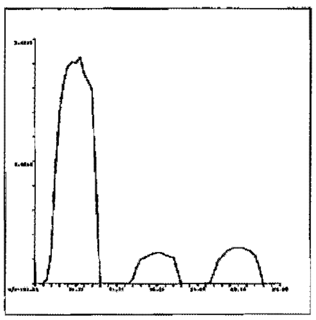
Element	Actual	Required	Flag



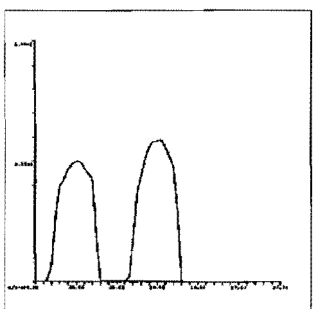
9 Be
Mass Calib.
Actual: 9.05
Required: 8.90-9.10
Flag:
Peak Width
Actual: 0.50
Required: 0.80
Flag:



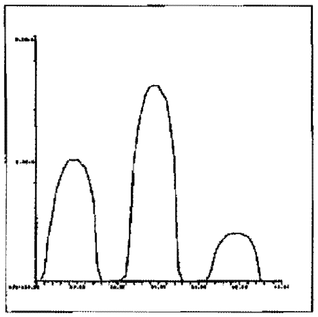
24 Mg
Mass Calib.
Actual: 24.00
Required: 23.90-24.10
Flag:
Peak Width
Actual: 0.55
Required: 0.80
Flag:



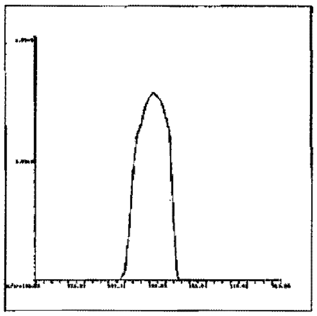
25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90-25.10
Flag:
Peak Width
Actual: 0.55
Required: 0.80
Flag:



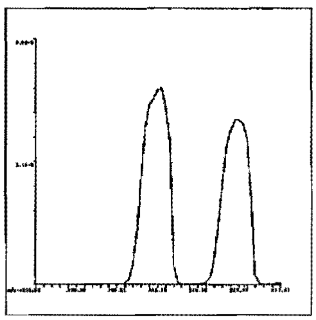
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90-26.10
Flag:
Peak Width
Actual: 0.55
Required: 0.80
Flag:



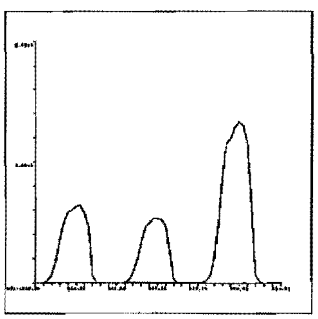
59 Co
Mass Calib.
Actual: 58.95
Required: 58.90-59.10
Flag:
Peak Width
Actual: 0.60
Required: 0.80
Flag:



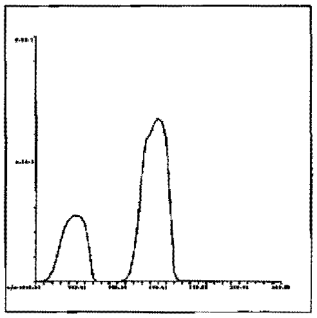
115 In
Mass Calib.
Actual: 114.95
Required: 114.90-115.10
Flag:
Peak Width
Actual: 0.55
Required: 0.80
Flag:



206 Pb
Mass Calib.
Actual: 206.00
Required: 205.90-206.10
Flag:
Peak Width
Actual: 0.50
Required: 0.80
Flag:



207 Pb
Mass Calib.
Actual: 207.00
Required: 206.90-207.10
Flag:
Peak Width
Actual: 0.50
Required: 0.80
Flag:



208 Pb
Mass Calib,
Actual: 208.00
Required: 207.90-208.10
Flag:
Peak Width
Actual: 0.45
Required: 0.80
Flag:

QC Tune Result:Pass

Batch Summary Report

Batch Folder: C:¥ICPMH¥1¥DATA¥12B03m00.B¥
Analysis File: 12B03m00.batch.xml
Tune Step: #1 hehe.u

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
1		2/3/2012 9:56:16 AM	001SMPL_12B03j00.D	blank	Sample		1.0000
2		2/3/2012 9:58:36 AM	002CALB_12B03j00.D	blank	CalBlk	1	1.0000
3		2/3/2012 10:00:57 AM	003CALB_12B03j00.D	blank	CalBlk	1	1.0000
4		2/3/2012 10:03:18 AM	004CALS_12B03j00.D	H/1000	CalStd	2	1.0000
5		2/3/2012 10:05:37 AM	005CALS_12B03j00.D	H/100	CalStd	3	1.0000
6		2/3/2012 10:07:55 AM	006CALS_12B03j00.D	H/10	CalStd	4	1.0000
7		2/3/2012 10:10:11 AM	007CALS_12B03j00.D	HIGH	CalStd	5	1.0000
8		2/3/2012 10:12:27 AM	008SMPL_12B03j00.D	ICV	6-ICV		1.0000
9		2/3/2012 10:14:46 AM	009SMPL_12B03j00.D	ICB	6-CCB		1.0000
10		2/3/2012 10:17:06 AM	010SMPL_12B03j00.D	CRI1	Sample		1.0000
11		2/3/2012 10:19:25 AM	011SMPL_12B03j00.D	CRI2	Sample		1.0000
12		2/3/2012 10:21:44 AM	012SMPL_12B03j00.D	ICSA	Sample		1.0000
13		2/3/2012 10:24:01 AM	013SMPL_12B03j00.D	ICSAB	Sample		1.0000
14		2/3/2012 10:26:20 AM	014SMPL_12B03j00.D	CCV	6-CCV		1.0000
15		2/3/2012 10:28:38 AM	015SMPL_12B03j00.D	CCB	6-CCB		1.0000
16		2/3/2012 10:30:55 AM	016SMPL_12B03j00.D	EX120201-2MB 10X	6-CCB		1.0000
17		2/3/2012 10:33:12 AM	017SMPL_12B03j00.D	EXM120201-2RVS 10X	Sample		1.0000
18		2/3/2012 10:35:28 AM	018SMPL_12B03j00.D	EXM120201-2LCS 10X	6-LCS		1.0000
19		2/3/2012 10:37:44 AM	019SMPL_12B03j00.D	1201363-11 10X	Sample		1.0000
20		2/3/2012 10:40:01 AM	020SMPL_12B03j00.D	1201363-11D 10X	Sample		1.0000
21		2/3/2012 10:42:18 AM	021SMPL_12B03j00.D	1201363-11L 50X	Sample		1.0000
22		2/3/2012 10:44:36 AM	022SMPL_12B03j00.D	1201363-11MS 10X	Sample		1.0000
23		2/3/2012 10:47:06 AM	023SMPL_12B03j00.D	1201363-11MSD 10X	Sample		1.0000
24		2/3/2012 10:49:27 AM	024SMPL_12B03j00.D	1201358-2 50X	Sample		1.0000
25		2/3/2012 10:51:48 AM	025SMPL_12B03j00.D	CCV	6-CCV		1.0000
26		2/3/2012 10:54:08 AM	026SMPL_12B03j00.D	CCB	6-CCB		1.0000
27		2/3/2012 10:56:27 AM	027SMPL_12B03j00.D	IP120202-2MB 10X	6-CCB		1.0000
28		2/3/2012 10:58:45 AM	028SMPL_12B03j00.D	IM120202-2LCS 10X	6-LCS		1.0000

Batch Summary Report

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
29		2/3/2012 11:01:05 AM	029SMPL_12B03j00.D	1201354-1 10X	Sample		1.0000
30		2/3/2012 11:03:24 AM	030SMPL_12B03j00.D	1201354-1D 10X	Sample		1.0000
31		2/3/2012 11:05:44 AM	031SMPL_12B03j00.D	1201354-1L 50X	Sample		1.0000
32		2/3/2012 11:08:02 AM	032SMPL_12B03j00.D	1201354-1MS 10X	Sample		1.0000
33		2/3/2012 11:10:18 AM	033SMPL_12B03j00.D	1201354-1MSD 10X	Sample		1.0000
34		2/3/2012 11:12:36 AM	034SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
35		2/3/2012 11:14:55 AM	035SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
36		2/3/2012 11:17:13 AM	036SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
37		2/3/2012 11:19:30 AM	037SMPL_12B03j00.D	CCV	6-CCV		1.0000
38		2/3/2012 11:21:48 AM	038SMPL_12B03j00.D	CCB	6-CCB		1.0000
39		2/3/2012 11:24:07 AM	039SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
40		2/3/2012 11:26:27 AM	040SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
41		2/3/2012 11:28:48 AM	041SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
42		2/3/2012 11:31:09 AM	042SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
43		2/3/2012 11:33:29 AM	043SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
44		2/3/2012 11:35:49 AM	044SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
45		2/3/2012 11:38:07 AM	045SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
46		2/3/2012 11:40:24 AM	046SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
47		2/3/2012 11:42:42 AM	047SMPL_12B03j00.D	ZZZZZZ	Sample		1.0000
48		2/3/2012 11:45:03 AM	048SMPL_12B03j00.D No As,Se	1201358-1 50X	Sample		1.0000
49		2/3/2012 11:47:22 AM	049SMPL_12B03j00.D	CCV	6-CCV		1.0000
50		2/3/2012 11:49:42 AM	050SMPL_12B03j00.D	CCB	6-CCB		1.0000
51		2/3/2012 12:16:05 PM	001SMPL.D	1201354-12 10X	Sample		1.0000
52		2/3/2012 12:18:24 PM	002SMPL.D	1201354-13 10X	Sample		1.0000
53		2/3/2012 12:20:44 PM	003SMPL.D	1201354-2 100X	Sample		1.0000
54		2/3/2012 12:23:04 PM	004SMPL.D	1201354-3 100X	Sample		1.0000
55		2/3/2012 12:25:24 PM	005SMPL.D	1201354-4 10X	Sample		1.0000
56		2/3/2012 12:27:42 PM	006SMPL.D	1201354-5 100X	Sample		1.0000
57		2/3/2012 12:30:02 PM	007SMPL.D	1201354-6 100X	Sample		1.0000
58		2/3/2012 12:32:22 PM	008SMPL.D	1201354-7 100X	Sample		1.0000
59		2/3/2012 12:34:42 PM	009SMPL.D	1201354-8 100X	Sample		1.0000
60		2/3/2012 12:37:02 PM	010SMPL.D	1201354-9 100X	Sample		1.0000
61		2/3/2012 12:39:22 PM	011SMPL.D	CCV	6-CCV		1.0000

Batch Summary Report

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
62		2/3/2012 12:41:40 PM	012SMPL.D	CCB	6-CCB		1.0000
63		2/3/2012 12:43:59 PM	013SMPL.D	1201354-10 10X	Sample		1.0000
64		2/3/2012 12:46:17 PM	014SMPL.D	1201354-11 100X	Sample		1.0000
65		2/3/2012 12:55:04 PM	015SMPL.D As, Se only	1201358-1 50X	Sample		1.0000
66		2/3/2012 12:57:22 PM	016SMPL.D	CCV	6-CCV		1.0000
67		2/3/2012 12:59:40 PM	017SMPL.D	CCB	6-CCB		1.0000

Analyte Table

		52 Cr [1]		75 As [1]		78 Se [1]		109 Ag [1]		111 Cd [1]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
1	blank		586.71		7.33		2.67		3.33		2.66
2	blank	0.006	510.03	0.000	5.33	-0.006	2.67	0.000	2.22	-0.001	1.33
3	blank	0.000	496.70	0.000	5.67	0.000	3.20	0.000	4.44	0.000	2.66
4	H/1000	0.519	2763.69	0.094	75.67	0.089	11.47	0.013	82.23	0.039	57.28
5	H/100	4.954	22830.20	0.994	776.02	0.982	96.27	0.112	722.25	0.312	462.81
6	H/10	50.260	219037.12	9.646	7231.30	9.916	908.16	1.043	6463.64	3.116	4461.47
7	HIGH	499.974	2183608.20	100.035	75274.60	100.009	9167.52	9.996	62249.47	29.988	44082.74
8	ICV	99.494	453452.35	18.500	14517.48	19.580	1873.98	1.907	12381.65	5.856	8773.19
9	ICB	0.019	566.70	0.008	11.00	0.007	3.73	0.002	15.56	0.008	13.29
10	CRI1	0.480	2590.34	0.104	82.67	0.099	12.40	0.011	74.44	0.034	50.61
11	CRI2	0.929	4544.15	0.209	161.00	0.199	21.47	0.015	95.56	0.073	106.55
12	ICSA	0.283	1820.19	0.015	18.00	-0.012	2.53	0.012	83.34	0.092	141.23
13	ICSAB	50.915	230137.16	10.037	7804.89	10.287	976.96	1.042	6703.74	3.141	4712.45
14	CCV	49.822	216843.81	9.714	7272.98	10.028	917.23	1.020	6321.35	3.167	4608.63
15	CCB	0.009	526.70	0.005	9.00	-0.001	3.07	0.001	10.00	0.003	5.94
16	EX120201-2MB...	0.020	630.04	0.002	8.00	-0.014	2.27	0.001	13.33	0.003	7.30
17	EXM120201-2RV...	0.518	2586.99	0.082	62.33	0.100	11.73	0.011	68.89	0.022	31.93
18	EXM120201-2LC...	49.596	218281.90	9.477	7175.94	9.903	915.63	1.010	6332.48	3.001	4334.18
19	1201363-11 10X	0.109	1016.76	0.037	34.00	0.018	5.20	0.002	17.78	0.022	33.97
20	1201363-11D 10X	0.084	916.74	0.037	34.00	0.008	4.27	0.001	12.22	0.022	33.95
21	1201363-11L 50X	0.032	673.38	0.012	14.67	-0.021	1.60	0.001	10.00	0.005	9.99
22	1201363-11MS ...	49.906	214737.91	9.697	7178.60	10.083	911.50	0.990	6061.24	3.022	4380.93
23	1201363-11MSD...	49.861	209332.35	9.602	6935.16	9.802	864.82	0.997	5962.32	3.006	4262.35
24	1201358-2 50X	0.016	613.38	0.725	542.68	0.652	62.27	0.000	2.22	0.006	11.98
25	CCV	50.344	218271.54	9.819	7323.67	10.018	912.83	1.045	6452.54	3.068	4429.46
26	CCB	0.015	553.37	-0.001	5.00	-0.018	1.73	0.002	15.55	0.002	5.31
27	IP120202-2MB ...	0.018	570.03	0.003	8.00	-0.011	2.27	0.000	6.67	0.002	5.32
28	IM120202-2LCS...	50.702	220994.81	9.704	7276.31	10.264	940.16	0.985	6114.61	3.099	4474.87
29	1201354-1 10X	4.679	20997.66	5.597	4219.23	11.497	1057.50	0.038	244.45	0.101	150.20
30	1201354-1D 10X	4.471	19913.04	5.312	3971.84	15.758	1436.33	0.064	400.01	0.123	178.93
31	1201354-1L 50X	0.947	4524.18	1.091	798.69	2.198	197.87	0.015	92.23	0.021	31.63

Analyte Table

		52 Cr [1]		75 As [1]		78 Se [1]		109 Ag [1]		111 Cd [1]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
32	1201354-1MS 10X	55.010	236342.34	15.096	11157.84	22.338	2012.93	1.042	6378.04	3.143	4440.53
33	1201354-1MSD ...	55.437	237056.07	15.325	11271.92	21.055	1889.18	1.055	6421.39	3.123	4437.07
34	ZZZZZZ	2.993	13369.50	8.739	6459.30	25.905	2332.84	0.024	148.89	0.065	97.22
35	ZZZZZZ	2.467	11191.00	9.897	7367.02	55.318	5013.44	0.019	124.45	0.097	142.42
36	ZZZZZZ	2.103	9499.84	3.961	2913.27	15.014	1345.13	0.016	102.22	0.052	77.68
37	CCV	50.257	215699.49	9.744	7193.95	10.087	909.76	1.026	6266.89	3.106	4356.84
38	CCB	0.041	653.38	0.002	7.33	-0.011	2.27	0.000	4.44	0.003	5.98
39	ZZZZZZ	3.151	13969.96	11.687	8590.96	42.683	3821.52	0.028	176.67	0.087	126.43
40	ZZZZZZ	2.605	11634.63	5.779	4247.57	41.995	3757.77	0.018	115.56	0.071	103.67
41	ZZZZZZ	3.386	14717.31	7.746	5599.65	33.751	2971.48	0.018	114.45	0.070	101.86
42	ZZZZZZ	4.731	20547.01	6.878	5019.79	16.897	1503.27	0.038	232.23	0.103	148.90
43	ZZZZZZ	3.834	17029.62	9.961	7386.70	27.429	2478.06	0.028	175.56	0.087	129.63
44	ZZZZZZ	6.453	28038.45	5.269	3875.48	2.130	194.00	0.045	281.12	0.083	122.79
45	ZZZZZZ	3.537	15888.50	16.556	12380.38	71.384	6501.17	0.025	158.89	0.078	116.73
46	ZZZZZZ	3.373	15424.76	1.913	1459.74	1.163	111.20	0.018	116.67	0.080	119.13
47	ZZZZZZ	7.544	33391.86	6.673	5011.80	0.562	54.93	0.027	175.56	0.102	153.12
48	1201358-1 50X	2.024	9336.43	63.007	47160.87	32.997	3010.28	0.014	88.89	0.016	26.02
49	CCV	50.242	215375.09	9.731	7175.93	10.087	908.56	1.015	6192.42	2.987	4252.13
50	CCB	-0.012	440.03	0.002	7.00	-0.022	1.33	0.002	14.44	0.001	3.32
51	1201354-12 10X	3.381	14914.04	1.942	1428.73	1.035	95.87	0.016	104.45	0.086	124.50
52	1201354-13 10X	7.260	31835.60	6.779	5041.13	0.668	63.87	0.026	164.45	0.114	166.47
53	1201354-2 100X	0.376	2103.60	0.929	675.02	2.760	245.73	0.004	27.78	0.004	8.97
54	1201354-3 100X	0.280	1723.51	1.021	752.02	5.644	505.48	0.002	18.89	0.010	16.77
55	1201354-4 10X	2.124	9566.61	3.874	2844.93	14.810	1325.12	0.014	91.11	0.044	64.39
56	1201354-5 100X	0.322	1840.20	1.210	861.36	4.308	374.14	0.000	3.33	0.007	12.18
57	1201354-6 100X	0.262	1626.82	0.652	477.34	4.349	386.01	0.003	25.56	0.009	15.56
58	1201354-7 100X	0.333	1946.86	0.757	560.01	3.357	302.40	0.002	17.78	0.016	25.10
59	1201354-8 100X	0.422	2296.94	0.686	500.68	1.755	157.47	0.005	34.44	0.013	20.15
60	1201354-9 100X	0.366	2060.23	0.972	707.02	2.771	246.67	0.001	13.33	0.012	18.98
61	CCV	50.064	210862.25	9.635	6982.52	10.096	893.50	1.010	6054.59	3.067	4299.55
62	CCB	0.014	530.04	-0.001	4.67	0.018	4.53	0.002	14.44	0.019	25.32

Analyte Table

		52 Cr [1]		75 As [1]		78 Se [1]		109 Ag [1]		111 Cd [1]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
63	1201354-10 10X	6.247	27063.52	5.116	3750.45	2.206	200.00	0.048	297.79	0.083	119.49
64	1201354-11 100X	0.393	2156.90	1.717	1233.72	7.369	644.94	0.005	35.55	0.009	15.08
65	1201358-1 50X	0.221	1453.47	0.575	420.68	0.011	4.40	0.023	138.89	0.014	22.17
66	CCV	49.992	212182.65	9.666	7057.89	9.966	888.83	0.988	5971.21	3.016	4232.76
67	CCB	0.011	520.04	0.010	11.67	0.002	3.20	0.003	18.89	0.004	7.32

Analyte Table

		137 Ba [1]		206 (Pb) [1]		207 (Pb) [1]		208 Pb [1]		238 U [1]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
1	blank		33.33		60.00		86.67		340.02		10.00
2	blank	0.006	36.67	-0.010	66.67	0.001	73.34	-0.002	353.35	0.000	14.44
3	blank	0.000	26.67	0.000	106.67	0.000	73.34	0.000	396.69	0.000	10.00
4	H/1000	0.175	356.69	0.050	320.02	0.059	283.35	0.059	1380.10	0.010	188.89
5	H/100	1.002	2013.56	0.509	2373.64	0.493	1943.55	0.495	9108.21	0.095	1722.35
6	H/10	10.294	19820.33	5.115	22087.68	5.065	18606.02	5.119	87278.75	1.060	18197.02
7	HIGH	99.971	197514.22	49.988	215022.05	49.994	183205.98	49.988	849420.94	9.994	183189.65
8	ICV	19.810	39902.86	9.350	42288.42	9.467	36463.21	9.389	167741.77	1.911	35762.63
9	ICB	0.020	60.00	-0.005	86.67	0.005	86.67	0.005	456.70	0.001	22.22
10	CRI1	0.139	290.02	0.051	330.02	0.059	290.02	0.054	1323.43	0.011	195.56
11	CRI2	0.271	546.71	0.104	563.38	0.110	483.36	0.099	2113.50	0.023	405.57
12	ICSA	0.078	186.68	0.074	456.70	0.065	333.36	0.071	1730.14	0.001	28.89
13	ICSAB	10.493	21168.76	5.132	22731.96	5.077	19146.58	5.059	88527.21	1.033	18886.80
14	CCV	10.095	19760.14	5.222	22241.16	5.152	18682.85	5.133	86332.12	0.991	17490.68
15	CCB	-0.007	13.33	-0.015	50.00	0.004	86.67	-0.004	336.68	0.000	16.66
16	EX120201-2MB...	0.073	170.01	0.000	120.01	0.006	103.34	0.005	536.70	0.017	310.01
17	EXM120201-2RV...	0.125	253.35	0.062	353.36	0.049	240.02	0.057	1300.10	0.027	444.46
18	EXM120201-2LC...	9.934	19299.50	4.886	21276.23	4.945	18332.23	4.950	85127.29	0.982	17349.31
19	1201363-11 10X	8.066	15568.50	0.265	1256.79	0.247	983.41	0.249	4657.19	0.032	582.24
20	1201363-11D 10X	8.013	15521.86	0.256	1200.11	0.253	990.09	0.265	4853.90	0.027	484.46
21	1201363-11L 50X	1.635	3087.12	0.030	243.35	0.066	316.69	0.054	1326.75	0.007	122.22
22	1201363-11MS ...	17.620	34329.04	5.031	21676.93	5.201	19066.57	5.101	86783.57	1.020	17641.92
23	1201363-11MSD...	17.780	33888.29	5.390	21790.45	5.213	17938.34	5.272	84170.55	1.026	17382.69
24	1201358-2 50X	11.420	21822.97	0.300	1380.13	0.295	1140.11	0.301	5447.34	0.162	2805.88
25	CCV	10.090	19593.18	5.064	21923.98	4.989	18382.21	4.981	85162.51	1.042	17829.84
26	CCB	-0.004	20.00	-0.011	63.33	-0.002	66.67	-0.007	286.68	0.000	8.89
27	IP120202-2MB ...	0.010	43.33	-0.012	60.00	-0.004	60.00	-0.001	393.35	0.013	220.00
28	IM120202-2LCS...	9.632	18702.14	5.232	22050.82	5.149	18475.69	5.173	86118.51	0.990	17392.70
29	1201354-1 10X	125.079	245643.10	24.377	107846.89	10.116	38183.75	13.414	234658.22	34.085	606159.15
30	1201354-1D 10X	117.109	225229.51	22.622	98870.99	9.261	34535.49	12.415	214554.13	33.028	570528.00
31	1201354-1L 50X	25.003	46607.80	4.921	20715.40	2.122	7648.98	2.710	45251.69	6.933	113267.92

Analyte Table

		137 Ba [1]		206 (Pb) [1]		207 (Pb) [1]		208 Pb [1]		238 U [1]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
32	1201354-1MS 10X	139.077	263953.08	28.167	119878.76	15.056	54633.08	17.985	302533.01	32.987	561193.02
33	1201354-1MSD ...	139.061	265425.62	28.710	126315.52	15.360	57610.29	18.269	317689.06	34.261	586766.03
34	ZZZZZZ	101.768	198427.15	25.443	108321.05	7.404	26908.90	11.537	194269.77	130.241	2257039.45
35	ZZZZZZ	120.707	232681.92	50.639	218897.58	7.836	28926.19	17.256	294973.97	357.226	6301541.91
36	ZZZZZZ	66.962	129301.38	16.427	71655.14	6.364	23700.00	8.750	150981.33	37.176	643894.10
37	CCV	10.415	19649.96	5.068	21520.09	5.027	18155.22	5.135	86073.31	1.028	17763.13
38	CCB	0.028	73.33	-0.006	83.34	0.000	73.34	0.000	390.02	0.005	82.22
39	ZZZZZZ	170.201	323074.66	31.729	136601.58	8.863	32570.44	13.949	237491.97	214.686	3707706.83
40	ZZZZZZ	166.229	316880.73	29.517	125028.07	8.289	29961.76	12.996	217701.57	237.104	4046617.62
41	ZZZZZZ	136.765	258799.67	26.135	113644.02	7.554	28044.65	11.739	201902.73	129.170	2186821.20
42	ZZZZZZ	77.926	148324.82	21.042	92259.04	9.982	37352.15	12.516	217004.80	247.144	4280149.93
43	ZZZZZZ	81.413	158662.40	22.545	99032.43	7.633	28625.71	11.047	191909.92	137.410	2409434.71
44	ZZZZZZ	78.197	151108.96	14.065	61951.78	10.591	39748.30	11.548	201024.63	23.949	416180.39
45	ZZZZZZ	92.105	179436.52	36.109	161612.68	9.090	34732.21	15.170	268505.70	273.232	4732557.53
46	ZZZZZZ	46.418	90511.35	6.222	27383.23	5.419	20318.23	5.646	98196.24	2.320	40824.76
47	ZZZZZZ	97.836	194158.28	9.361	41610.15	8.889	33660.01	9.067	159226.16	1.086	19115.98
48	1201358-1 50X	1049.658	2001449.35	349.194	1521887.89	387.742	1439910.60	373.274	6427014.90	12.222	209367.52
49	CCV	10.087	19319.53	5.099	21419.72	5.189	18545.83	5.078	84233.47	1.033	17655.27
50	CCB	0.014	50.00	0.008	133.34	0.018	126.68	0.007	493.37	0.003	52.22
51	1201354-12 10X	46.057	88114.46	6.196	26484.78	5.737	20872.39	5.798	97895.67	1.882	32543.98
52	1201354-13 10X	98.627	189965.24	9.324	41409.63	8.629	32644.24	8.944	156924.37	1.089	18461.76
53	1201354-2 100X	10.467	19790.17	2.604	10897.96	0.780	2827.08	1.191	19906.66	13.320	226882.73
54	1201354-3 100X	12.213	22974.61	5.255	22251.01	0.765	2827.10	1.785	30142.59	38.851	648775.76
55	1201354-4 10X	67.959	129043.25	16.550	71481.23	6.562	24177.45	8.855	151248.09	37.940	642993.86
56	1201354-5 100X	17.164	31873.81	3.203	13573.53	0.907	3330.56	1.409	23822.74	22.539	374450.66
57	1201354-6 100X	17.234	32745.77	3.094	13199.84	0.807	2990.45	1.341	22848.85	25.181	425816.68
58	1201354-7 100X	14.108	26573.86	2.637	11585.08	0.775	2950.43	1.182	20740.46	12.824	219367.31
59	1201354-8 100X	7.872	14614.30	2.205	9566.90	1.015	3787.34	1.312	22647.62	26.324	435607.37
60	1201354-9 100X	8.465	15581.94	2.248	9534.87	0.794	2917.12	1.109	18793.67	13.654	228312.81
61	CCV	10.051	18952.54	5.114	21406.59	5.286	18826.12	5.106	84393.60	1.011	17383.80
62	CCB	0.019	56.67	-0.008	73.34	0.003	80.00	0.000	383.36	0.005	86.72

Analyte Table

		137 Ba [1]		206 (Pb) [1]		207 (Pb) [1]		208 Pb [1]		238 U [1]	
	Sample Name	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS	Conc. [ppb]	CPS
63	1201354-10 10X	79.318	148840.17	13.786	61108.01	10.726	40520.46	11.435	200302.19	23.685	409609.33
64	1201354-11 100X	9.659	17767.62	3.775	15889.27	0.968	3523.93	1.578	26468.61	28.339	475280.51
65	1201358-1 50X	0.022	70.00	0.050	323.35	0.063	303.35	0.062	1446.77	0.001	20.00
66	CCV	10.248	19339.60	5.100	21713.66	5.002	18118.56	5.072	85243.76	1.023	17681.92
67	CCB	0.007	36.67	-0.016	43.33	-0.005	53.33	-0.002	346.68	0.002	45.56

ISTD Table

	Sample Name	103 Rh (ISTD) [1] CPS	103 Rh (ISTD) [1] Recovery%	115 In (ISTD) [1] CPS	115 In (ISTD) [1] Recovery%	195 Pt (ISTD) [1] CPS	195 Pt (ISTD) [1] Recovery%	209 Bi (ISTD) [1] CPS	209 Bi (ISTD) [1] Recovery%
1	blank	130786.73		118854.41		42151.48		62256.61	
2	blank	131253.58	100.0	118845.62	100.0	41923.63	100.0	61463.16	100.0
3	blank	133223.47	100.0	120833.16	100.0	43181.14	100.0	62956.33	100.0
4	H/1000	145391.42	109.1	129868.40	107.5	46731.67	108.2	66939.94	106.3
5	H/100	152563.83	114.5	137263.05	113.6	48895.27	113.2	72060.46	114.5
6	H/10	147604.29	110.8	133290.56	110.3	46387.21	107.4	69950.51	111.1
7	HIGH	148255.16	111.3	136960.18	113.3	49520.49	114.7	70027.92	111.2
8	ICV	154547.38	116.0	139570.78	115.5	50567.47	117.1	73437.66	116.6
9	ICB	132298.76	99.3	118958.69	98.4	42261.50	97.9	61556.80	97.8
10	CRI1	145015.69	108.9	129820.54	107.4	46334.09	107.3	68367.02	108.6
11	CRI2	146149.32	109.7	132767.62	109.9	46748.09	108.3	69850.43	111.0
12	ICSA	150770.60	113.2	139647.48	115.6	48450.51	112.2	73245.59	116.3
13	ICSAB	153092.89	114.9	139646.33	115.6	49346.31	114.3	71759.37	114.0
14	CCV	147403.86	110.6	135494.29	112.1	47664.57	110.4	69006.46	109.6
15	CCB	132241.91	99.3	120558.44	99.8	42442.26	98.3	62417.08	99.1
16	EX120201-2MB...	146427.84	109.9	133587.11	110.6	48286.69	111.8	70774.64	112.4
17	EXM120201-2RV...	136413.09	102.4	125063.74	103.5	43722.39	101.3	64224.79	102.0
18	EXM120201-2LC...	149086.34	111.9	134456.65	111.3	47714.04	110.5	70553.43	112.1
19	1201363-11 10X	146888.32	110.3	133549.27	110.5	47537.51	110.1	69907.50	111.0
20	1201363-11D 10X	147663.04	110.8	134020.72	110.9	46711.69	108.2	68809.64	109.3
21	1201363-11L 50X	144033.01	108.1	129601.29	107.3	44240.60	102.5	68420.38	108.7
22	1201363-11MS ...	145715.70	109.4	134975.22	111.7	46708.37	108.2	69769.58	110.8
23	1201363-11MSD...	142184.96	106.7	132007.27	109.2	45758.85	106.0	65493.38	104.0
24	1201358-2 50X	145808.29	109.4	132288.79	109.5	46811.84	108.4	68628.14	109.0
25	CCV	146845.75	110.2	134433.49	111.3	46213.19	107.0	70111.56	111.4
26	CCB	133125.40	99.9	119536.19	98.9	42773.01	99.1	62594.33	99.4
27	IP120202-2MB ...	134087.70	100.6	121492.59	100.5	43468.40	100.7	63585.57	101.0
28	IM120202-2LCS...	147631.25	110.8	134432.31	111.3	47463.98	109.9	68272.94	108.4
29	1201354-1 10X	148315.22	111.3	136127.17	112.7	48042.51	111.3	71983.93	114.3
30	1201354-1D 10X	147110.14	110.4	133310.20	110.3	46694.77	108.1	71102.43	112.9
31	1201354-1L 50X	143098.34	107.4	129143.83	106.9	44143.52	102.2	68172.71	108.3

ISTD Table

		103 Rh (ISTD) [1]		115 In (ISTD) [1]		195 Pt (ISTD) [1]		209 Bi (ISTD) [1]	
	Sample Name	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%
32	1201354-1MS 10X	145560.23	109.3	131554.49	108.9	45972.43	106.5	69247.39	110.0
33	1201354-1MSD ...	144869.69	108.7	132294.69	109.5	46276.58	107.2	71582.62	113.7
34	ZZZZZZ	145508.94	109.2	135141.71	111.8	46848.64	108.5	69254.31	110.0
35	ZZZZZZ	146549.06	110.0	133617.62	110.6	47664.39	110.4	70359.16	111.8
36	ZZZZZZ	144580.54	108.5	133854.15	110.8	46805.18	108.4	70918.42	112.6
37	CCV	145357.62	109.1	130612.46	108.1	46654.57	108.0	68778.95	109.2
38	CCB	132603.63	99.5	118692.82	98.2	42148.27	97.6	63117.08	100.3
39	ZZZZZZ	144742.92	108.6	131570.44	108.9	46691.82	108.1	70054.67	111.3
40	ZZZZZZ	144676.12	108.6	132134.39	109.4	46109.82	106.8	68923.57	109.5
41	ZZZZZZ	142285.29	106.8	131158.49	108.5	45751.73	106.0	70737.08	112.4
42	ZZZZZZ	143630.13	107.8	131922.32	109.2	46814.89	108.4	71333.95	113.3
43	ZZZZZZ	146065.35	109.6	135070.71	111.8	47380.19	109.7	71451.66	113.5
44	ZZZZZZ	144688.27	108.6	133937.37	110.8	46952.59	108.7	71616.30	113.8
45	ZZZZZZ	147276.15	110.5	135054.23	111.8	46799.04	108.4	72838.25	115.7
46	ZZZZZZ	149682.92	112.4	135130.04	111.8	47527.23	110.1	71350.68	113.3
47	ZZZZZZ	147803.21	110.9	137550.67	113.8	47520.98	110.1	72185.00	114.7
48	1201358-1 50X	147480.02	110.7	132179.74	109.4	46283.76	107.2	70969.19	112.7
49	CCV	145179.69	109.0	132528.22	109.7	46136.29	106.8	68028.28	108.1
50	CCB	131042.36	98.4	117546.56	97.3	42054.24	97.4	60840.10	96.6
51	1201354-12 10X	144393.13	108.4	132578.54	109.7	46698.37	108.1	69304.14	110.1
52	1201354-13 10X	146342.72	109.8	133497.95	110.5	45765.11	106.0	72117.73	114.6
53	1201354-2 100X	142000.17	106.6	130905.73	108.3	46015.99	106.6	67409.23	107.1
54	1201354-3 100X	143939.22	108.0	130241.38	107.8	45137.01	104.5	68641.28	109.0
55	1201354-4 10X	144402.43	108.4	131595.68	108.9	45812.27	106.1	70209.42	111.5
56	1201354-5 100X	139277.81	104.5	128615.04	106.4	44882.55	103.9	68430.50	108.7
57	1201354-6 100X	142313.72	106.8	131611.66	108.9	45691.69	105.8	68908.68	109.5
58	1201354-7 100X	144124.16	108.2	130431.68	107.9	46223.43	107.0	70805.35	112.5
59	1201354-8 100X	141994.99	106.6	128532.05	106.4	44752.64	103.6	69782.81	110.8
60	1201354-9 100X	142076.31	106.6	127392.51	105.4	45183.65	104.6	68296.89	108.5
61	CCV	142656.92	107.1	130498.65	108.0	46434.19	107.5	67804.32	107.7
62	CCB	127752.47	95.9	115186.84	95.3	41064.51	95.1	61055.33	97.0

ISTD Table

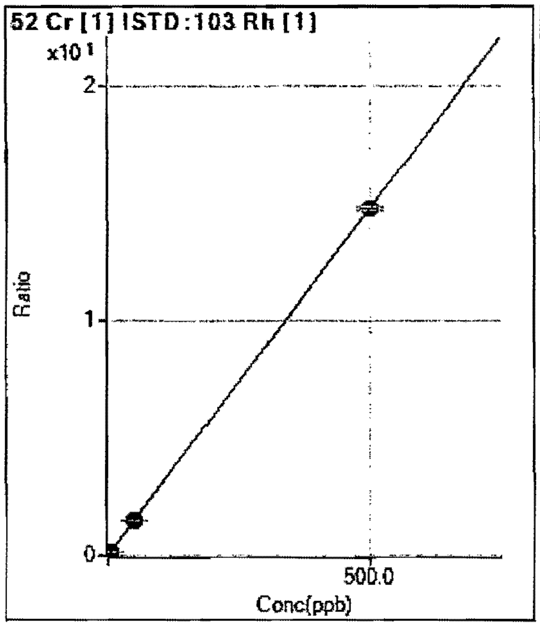
		103 Rh (ISTD) [1]		115 In (ISTD) [1]		195 Pt (ISTD) [1]		209 Bi (ISTD) [1]	
	Sample Name	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%
63	1201354-10 10X	144193.66	108.2	130052.95	107.6	46734.85	108.2	72043.90	114.4
64	1201354-11 100X	140867.80	105.7	127381.90	105.4	45313.95	104.9	68021.91	108.0
65	1201358-1 50X	142010.69	106.6	129766.97	107.4	45043.46	104.3	67968.77	108.0
66	CCV	143753.37	107.9	130668.77	108.1	46704.79	108.2	68953.43	109.5
67	CCB	128282.56	96.3	115899.70	95.9	41950.49	97.2	60763.69	96.5

Calibration for 003SMPL.D

Batch Folder:	C:¥ICPMH¥1¥DATA¥12B03m00.B¥
Analysis File:	12B03m00.batch.xml
DA Date-Time:	2/3/2012 1:04:07 PM
Calibration Title:	
Calibration Method:	External Calibration
VIS Interpolation Fit:	
Tune Step:	#1 hehe.u

Level	Standard Data File	Sample Name	Acq. Date-Time
1	003CALB_12B03j00.D	blank	2/3/2012 10:00:57 AM
2	004CALS_12B03j00.D	H/1000	2/3/2012 10:03:18 AM
3	005CALS_12B03j00.D	H/100	2/3/2012 10:05:37 AM
4	006CALS_12B03j00.D	H/10	2/3/2012 10:07:55 AM
5	007CALS_12B03j00.D	HIGH	2/3/2012 10:10:11 AM
6			

Calibration for 003SMPL.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	496.70	0.0037	P	26.6
2	☐	0.500	0.519	2763.69	0.0190	P	3.1
3	☐	5.000	4.954	22830.20	0.1496	P	2.2
4	☐	50.000	50.260	219037.12	1.4840	P	0.4
5	☐	500.000	499.974	2183608.20	14.7292	A	1.1
6	☐	100.000					

y = 0.0295 * x + 0.0037

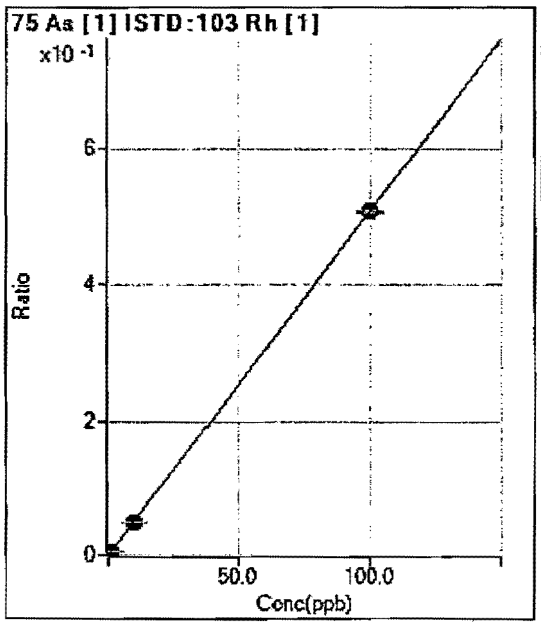
R = 1.0000

DL = 0.1009

BEC = 0.1265

Weight: None

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5.67	0.0000	P	44.4
2	☐	0.100	0.094	75.67	0.0005	P	5.1
3	☐	1.000	0.994	776.02	0.0051	P	1.6
4	☐	10.000	9.646	7231.30	0.0490	P	1.3
5	☐	100.000	100.035	75274.60	0.5077	P	0.7
6	☐	20.000					

y = 0.0051 * x + 4.2523E-005

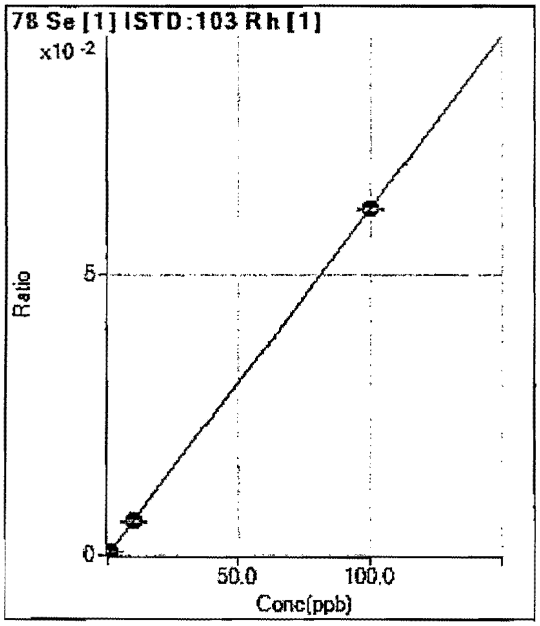
R = 1.0000

DL = 0.01117

BEC = 0.008379

Weight: None

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.20	0.0000	P	12.2
2	☐	0.100	0.089	11.47	0.0001	P	33.6
3	☐	1.000	0.982	96.27	0.0006	P	8.1
4	☐	10.000	9.916	908.16	0.0062	P	3.6
5	☐	100.000	100.009	9167.52	0.0618	P	0.6
6	☐	20.000					

y = 6.1806E-004 * x + 2.4013E-005

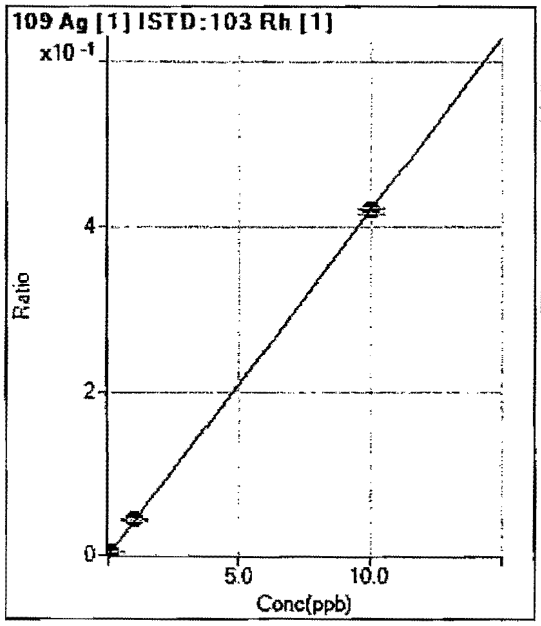
R = 1.0000

DL = 0.01416

BEC = 0.03885

Weight: None

Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4.44	0.0000	P	43.0
2	☐	0.010	0.013	82.23	0.0006	P	27.9
3	☐	0.100	0.112	722.25	0.0047	P	6.1
4	☐	1.000	1.043	6463.64	0.0438	P	7.3
5	☐	10.000	9.996	62249.47	0.4199	P	1.6
6	☐	2.000					

y = 0.0420 * x + 3.3318E-005

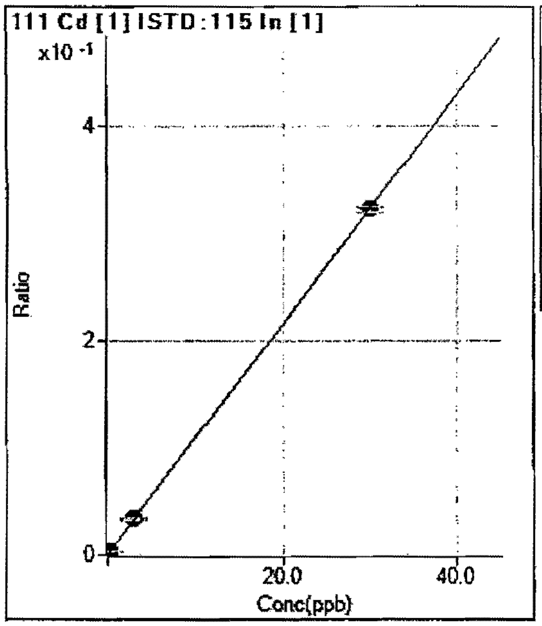
R = 1.0000

DL = 0.001023

BEC = 0.0007932

Weight: None

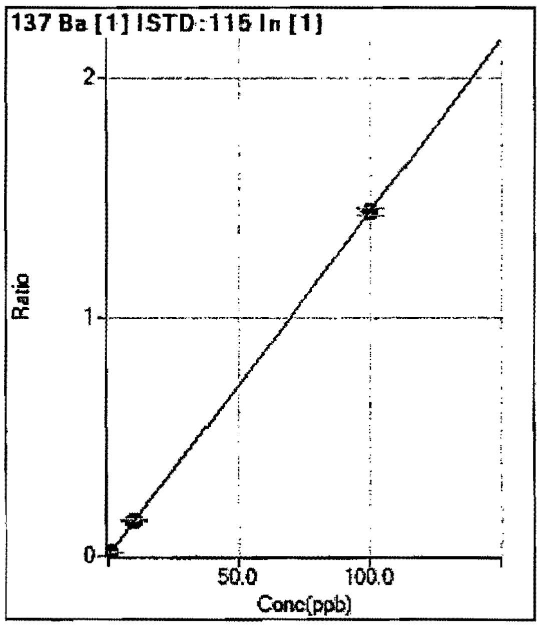
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2.66	0.0000	P	87.0
2	☐	0.030	0.039	57.28	0.0004	P	13.3
3	☐	0.300	0.312	462.81	0.0034	P	3.9
4	☐	3.000	3.116	4461.47	0.0335	P	1.9
5	☐	30.000	29.988	44082.74	0.3219	P	1.6
6	☐	6.000					

y = 0.0107 * x + 2.2152E-005
R = 1.0000
DL = 0.005384
BEC = 0.002064

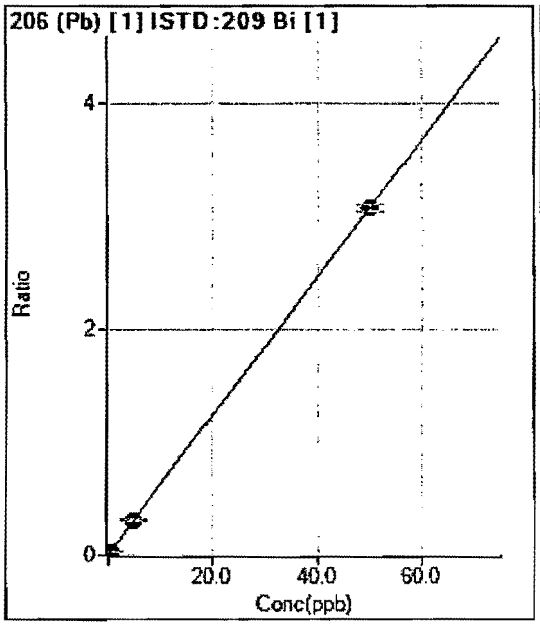
Weight: None
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0002	P	86.6
2	☐	0.100	0.175	356.69	0.0027	P	13.9
3	☐	1.000	1.002	2013.56	0.0147	P	12.6
4	☐	10.000	10.294	19820.33	0.1487	P	2.9
5	☐	100.000	99.971	197514.22	1.4424	P	2.0
6	☐	20.000					

y = 0.0144 * x + 2.1829E-004
R = 1.0000
DL = 0.03931
BEC = 0.01513

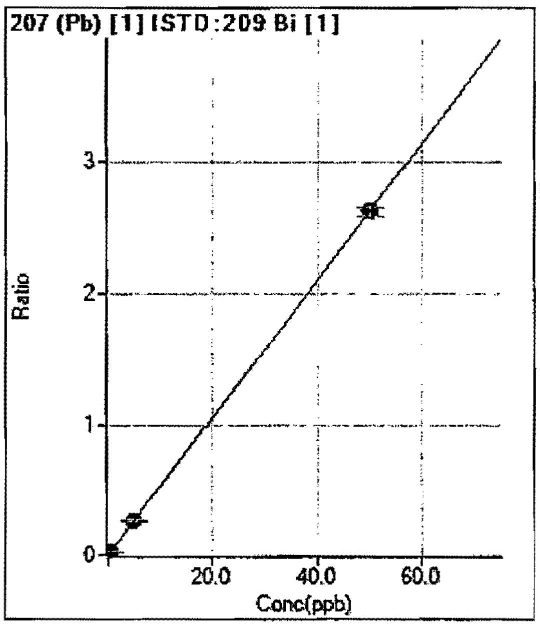
Weight: None
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	106.67	0.0017	P	23.8
2		0.050	0.050	320.02	0.0048	P	16.7
3		0.500	0.509	2373.64	0.0329	P	4.3
4		5.000	5.115	22087.68	0.3158	P	3.7
5		50.000	49.988	215022.05	3.0713	P	2.2
6		10.000					

y = 0.0614 * x + 0.0017
R = 1.0000
DL = 0.01973
BEC = 0.02761

Weight: None
Min Conc: <None>

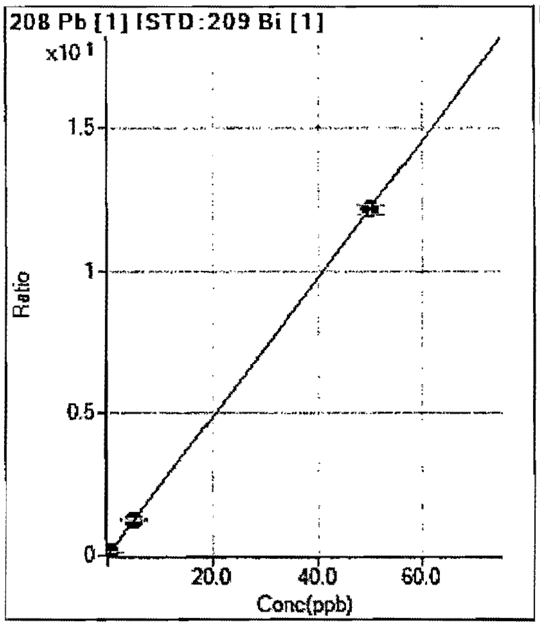


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	73.34	0.0012	P	41.5
2		0.050	0.059	283.35	0.0042	P	14.1
3		0.500	0.493	1943.55	0.0270	P	0.8
4		5.000	5.065	18606.02	0.2662	P	6.3
5		50.000	49.994	183205.98	2.6171	P	2.8
6		10.000					

y = 0.0523 * x + 0.0012
R = 1.0000
DL = 0.0277
BEC = 0.02224

Weight: None
Min Conc: <None>

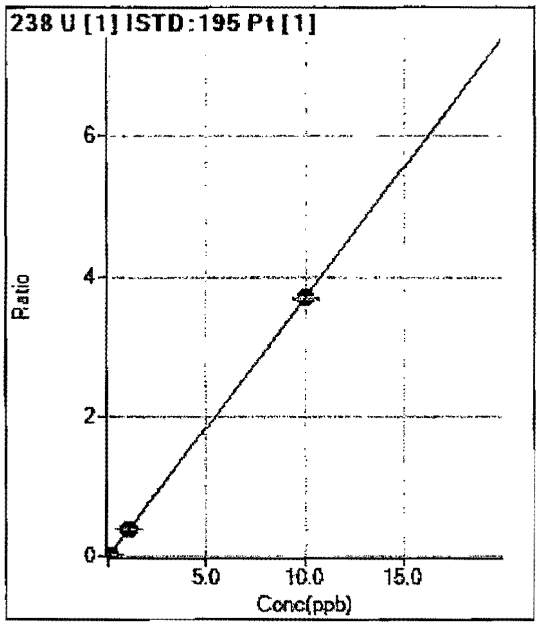
Calibration for 003SMPL.D



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	396.69	0.0063	P	24.4
2	☐	0.050	0.059	1380.10	0.0206	P	10.5
3	☐	0.500	0.495	9108.21	0.1264	P	5.0
4	☐	5.000	5.119	87278.75	1.2482	P	3.1
5	☐	50.000	49.988	849420.94	12.1333	P	2.5
6	☐	10.000					

y = 0.2426 * x + 0.0063
R = 1.0000
DL = 0.01899
BEC = 0.02598

Weight: None
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0002	P	58.9
2	☐	0.010	0.010	188.89	0.0040	P	19.1
3	☐	0.100	0.095	1722.35	0.0352	P	2.0
4	☐	1.000	1.060	18197.02	0.3925	P	3.2
5	☐	10.000	9.994	183189.65	3.6996	P	1.1
6	☐	2.000					

y = 0.3702 * x + 2.3386E-004
R = 1.0000
DL = 0.001116
BEC = 0.0006318

Weight: None
Min Conc: <None>

Header Information for Analytical Run: Hg120206-1

Analyst: Sheri Lafferty

Standards:

Stock A: 10ppm (ST120127-1)
Stock B: 10ppm (ST120127-5)
Daily standards made by diluting stock solution 100X

Reagents:

See digestion log

Pipettes Used:

M-57 ----- 0.01mL to 0.1mL
M-61 ----- 0.1mL to 1.0mL
M-1010---1.0mL to 5.0mL

Method of Dilution:

2X-------Dilution made by diluting 5.0ml of sample to 10ml final volume.
5X-------Dilution made by diluting 2.0ml of sample to 10ml final volume
10X-----Dilution made by diluting 1.0ml of sample to 10ml final volume
20X-----Dilution made by diluting 0.5ml of sample to 10ml final volume
50X-----Dilution made by diluting 0.2ml of sample to 10ml final volume
100X---Dilution made by diluting 0.1ml of sample to 10ml final volume
500X---Dilution made by diluting a 5X dilution 100X
1000X-Dilution made by diluting a 10X dilution 100X

Daily Maintenance:

1. Check/ Change peristaltic pump tubing
2. Check gas liquid seperator for deposits, clean if necessary
3. Check/ Refill rinse water & stannous chloride reservoirs

Daily Maintenance done by: SL

Monthly Maintenance:

1. Check/ Clean sample and reference cells
2. Check/ Change Nafion cartridge

Monthly Maintenance done by: SL 1/25/2012

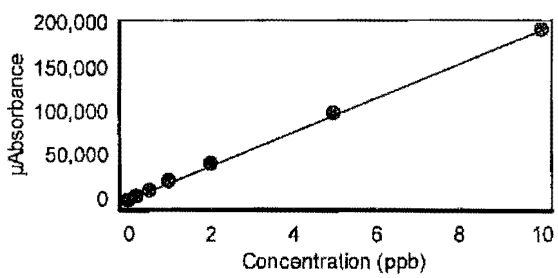
Report Generated By CETAC QuickTrace
Analyst: sheri.lafferty
Worksheet file: C:\Program Files\QuickTrace\Worksheets\HG120206-1.wsz
Date Started: 2/6/2012 11:48:39 AM
Comment:

Results

Sample Name				Type	Date/Time	Conc (ppb)	%RSD	Flags
Calibration Blank				STD	02/07/12 10:30:47 am	0.00000	11.86	
Replicates	-25.2	-32.3	-32.6	-32.3				
Standard #1 (0.20 ppb)				STD	02/07/12 10:32:55 am	0.20000	0.52	
Replicates	3950.1	3958.2	3942.1	3911.5				
Standard #2 (0.50 ppb)				STD	02/07/12 10:35:03 am	0.50000	1.38	
Replicates	9606.6	9657.2	9765.2	9910.0				
Standard #3 (1.0 ppb)				STD	02/07/12 10:37:12 am	1.00000	1.02	
Replicates	20354.9	20559.0	20727.1	20835.5				
Standard #4 (2.0 ppb)				STD	02/07/12 10:39:21 am	2.00000	0.59	
Replicates	40000.3	40246.5	40430.9	40545.9				
Standard #5 (5.0 ppb)				STD	02/07/12 10:41:31 am	5.00000	0.59	
Replicates	97772.9	98333.8	98785.5	99115.3				
Standard #6 (10.0 ppb)				STD	02/07/12 10:43:41 am	10.00000	0.61	
Replicates	192218.1	193364.0	194288.2	194965.7				

Calibration

Equation: A = 632.260 + 19377.250C
R2: 0.99987
SEE: 868.5891
Flags:



Sample Name				Type	Date/Time	Conc (ppb)	%RSD	Flags
ICV				ICV	02/07/12 10:45:52 am	1.06000	0.36	
Replicates	21154.0	21236.6	21293.1	21332.5				
% Recovery	106.42							

Sample Name				Type	Date/Time	Conc (ppb)	%RSD	Flags
ICB				ICB	02/07/12 10:48:04 am	-0.03180	94.08	
Replicates	37.9	17.4	7.5	3.1				
CRA				UNK	02/07/12 10:50:11 am	0.17600	0.98	
Replicates	3983.5	4027.4	4058.9	4073.1				
HG120206-1MB				UNK	02/07/12 10:52:18 am	-0.03090	4.71	
Replicates	33.9	32.7	36.4	33.4				
HG120206-1LCS				UNK	02/07/12 10:54:26 am	1.01000	0.79	
Replicates	19884.8	20112.0	20208.0	20233.2				
1201354-1				UNK	02/07/12 10:56:34 am	0.14800	0.77	
Replicates	3468.2	3504.3	3527.0	3523.3				
1201354-2				UNK	02/07/12 10:58:42 am	0.16200	0.46	
Replicates	3740.7	3764.7	3776.3	3778.7				
1201354-3				UNK	02/07/12 11:00:50 am	0.27800	0.33	
Replicates	5995.0	6022.0	6034.3	6040.6				
1201354-4				UNK	02/07/12 11:02:59 am	0.08540	0.06	
Replicates	2285.3	2286.8	2288.4	2286.5				
1201354-5				UNK	02/07/12 11:05:08 am	0.17900	0.44	
Replicates	4111.2	4118.0	4108.8	4077.5				
1201354-6				UNK	02/07/12 11:07:17 am	0.18600	0.84	
Replicates	4219.4	4197.1	4216.2	4278.9				
1201354-7				UNK	02/07/12 11:09:27 am	0.13200	1.45	
Replicates	3160.8	3164.9	3206.0	3260.8				
CCV				UNK	02/07/12 11:11:37 am	1.99000	0.41	
Replicates	39383.3	39177.0	39007.5	39090.3				

Sample Name				Type	Date/Time	Conc (ppb)	%RSD	Flags
CCB				UNK	02/07/12 11:14:14 am	-0.04100	2.98	
Replicates	-166.2	-167.5	-161.0	-157.0				
1201354-8				UNK	02/07/12 11:16:20 am	0.21600	0.24	
Replicates	4816.6	4822.7	4815.1	4796.0				
1201354-9				UNK	02/07/12 11:18:27 am	0.13900	2.43	
Replicates	3224.8	3314.3	3378.9	3407.1				
1201354-10				UNK	02/07/12 11:20:34 am	0.16500	0.15	
Replicates	3816.2	3818.2	3826.0	3827.7				
1201354-11				UNK	02/07/12 11:22:42 am	0.36700	0.99	
Replicates	7795.4	7793.9	7734.0	7631.7				
1201354-12				UNK	02/07/12 11:24:50 am	0.02940	1.07	
Replicates	1217.7	1207.9	1195.7	1188.5				
1201354-13				UNK	02/07/12 11:26:58 am	0.10200	0.49	
Replicates	2628.8	2621.5	2607.7	2600.4				
1201354-13D				UNK	02/07/12 11:29:06 am	0.12300	0.31	
Replicates	2997.9	3011.1	3017.0	3018.6				
1201354-13L 5X				UNK	02/07/12 11:31:15 am	-0.00337	0.82	
Replicates	573.0	566.1	561.8	566.8				
1201354-13MS				UNK	02/07/12 11:33:24 am	2.18000	0.99	
Replicates	42460.8	42556.5	42913.7	43398.5				
1201354-13MSD				UNK	02/07/12 11:35:33 am	2.19000	0.46	
Replicates	42872.4	43084.9	43229.0	43331.1				
CCV				UNK	02/07/12 11:37:42 am	2.06000	0.39	
Replicates	40434.2	40613.8	40732.8	40795.6				

Sample Name					Type	Date/Time	Conc (ppb)	%RSD	Flags
CCB					UNK	02/07/12 11:39:52 am	-0.03320	47.54	
	Replicates	-4.9	-9.9	-16.7	-16.4				
CRA					UNK	02/07/12 11:41:59 am	0.17600	0.16	
	Replicates	4049.2	4047.0	4041.7	4057.3				
CCV					UNK	02/07/12 11:44:06 am	2.08000	0.54	
	Replicates	40599.8	40831.8	40998.0	41107.4				
CCB					UNK	02/07/12 11:46:13 am	-0.03360	7.32	
	Replicates	-21.4	-18.6	-18.3	-18.8				

Miscellaneous

Percent Moisture

Method SOP642 Revision 9

Lab Name: ALS Environmental -- FC

Balance ID: 31

Date Extracted: 02/02/2012
Date Analyzed: 02/02/2012
Analyst: Teresa Buettgenbac

Oven ID: 17
In Oven: 2/1/2012 10:35
Out of Oven: 2/2/2012 7:55

Validated By: tlb
Validation Date: 02/02/2012
Validation Time: 8:28:23 AM

Run ID	Prep Batch ID	QC Batch ID	Lab ID	QC Type	Dish Wt	Wet Wt	Dry Wt	Dry Wt-Dish Wt	Percent Moisture	Percent Solids	RPD
EX120201-1A	EX120201-1	EX120201-1-1	1201354-1	DUP	1.283	10.4	10.44	9.15	12.0	88.0	4
EX120201-1A	EX120201-1	EX120201-1-1	1201354-1	SMP	1.291	10.23	10.24	8.95	12.5	87.5	
EX120201-1A	EX120201-1	EX120201-1-1	1201354-10	SMP	1.296	10.97	9.287	7.99	27.2	72.8	
EX120201-1A	EX120201-1	EX120201-1-2	1201354-11	SMP	1.306	10.13	9.845	8.54	15.7	84.3	
EX120201-1A	EX120201-1	EX120201-1-2	1201354-12	SMP	1.287	10.41	10.53	9.24	11.2	88.8	
EX120201-1A	EX120201-1	EX120201-1-2	1201354-13	DUP	1.288	10.13	10.62	9.33	7.9	92.1	6
EX120201-1A	EX120201-1	EX120201-1-2	1201354-13	SMP	1.294	10.53	11.05	9.75	7.4	92.6	
EX120201-1A	EX120201-1	EX120201-1-1	1201354-2	SMP	1.285	10.31	10.83	9.54	7.4	92.6	
EX120201-1A	EX120201-1	EX120201-1-1	1201354-3	SMP	1.299	10.93	10.84	9.54	12.7	87.3	
EX120201-1A	EX120201-1	EX120201-1-1	1201354-4	SMP	1.298	10.72	10.35	9.05	15.6	84.4	
EX120201-1A	EX120201-1	EX120201-1-1	1201354-5	SMP	1.305	10.35	10.18	8.87	14.2	85.8	
EX120201-1A	EX120201-1	EX120201-1-1	1201354-6	SMP	1.324	10.68	10.48	9.16	14.2	85.8	
EX120201-1A	EX120201-1	EX120201-1-1	1201354-7	SMP	1.293	10.61	10.67	9.38	11.6	88.4	
EX120201-1A	EX120201-1	EX120201-1-1	1201354-8	SMP	1.283	10.17	9.259	7.98	21.6	78.4	
EX120201-1A	EX120201-1	EX120201-1-1	1201354-9	SMP	1.281	10.71	11.01	9.73	9.2	90.8	
EX120201-1A	EX120201-1	EX120201-1-1	EX120201-1	MB	1.294	1.294	1.294	0.00	100.0	0.0	
EX120201-1A	EX120201-1	EX120201-1-2	EX120201-1	MB	1.294	1.294	1.294	0.00	100.0	0.0	

QC Types

CAR	Carrier reference sample
LCS	Laboratory Control Sample
MB	Method Blank
MSD	Laboratory Matrix Spike Duplicate
RVS	Reporting Level Verification Standar
SYS	Sample Yield Spike

DUP	Laboratory Duplicate
LCSD	Laboratory Control Sample Duplicat
MS	Laboratory Matrix Spike
REP	Sample replicate
SMP	Field Sample

Comments:

DUP = Sample Duplicate
Wet Wt = Sample Wet Wt - Dish Wt
Dry Wt = Sample Dry Wt + Dish Wt
Dry Wt - Dish Wt = Sample Dry Wt - Dish Wt
All weight values shown above are expressed in grams.

$$\text{RPD} = \frac{|\text{Sample Value} - \text{Duplicate Value}|}{(\text{Sample Value} + \text{Duplicate Value})/2} \times 100$$

$$\%\ \text{Solids} = \frac{\text{Dry Weight}}{\text{Wet Weight}} \times 100$$

$$\%\ \text{Moisture} = \frac{(\text{Wet Weight} - \text{Dry Weight})}{\text{Wet Weight}} \times 100$$

METALS DIGESTION WORKSHEET

ALS Laboratory Group

Digestion Date 2.2.12 HCl Lot No. K33031 Method: 3050 Beaker Lot No. 1107184 Initial Prep BAS Final Prep BAS

Digestion Batch IP120202-2 HNO_3 Lot No. K23022 SOP/Rev: 806R15 Avg. Beaker Wt. (g) 21.0 Prep Start Time 0700 Prep End Time 1700

Temp 95 °C Peroxide Lot No. G42516 Balance(s): 30 Pipet(s): m-70 Digestate Wt. (g) 105.11

Form 806r20.xls (02/10/11) Note: Each Page is copied as completed and included with the workorder/run documentation; reviewed subsequently

QC Grp	Lab Sample ID	Instrument	Init Vol/Wt (mL / g)	Final Vol. (mL)	Final Wt. (g)	pH	Comments, including metals list
(	1201354-1	MS/TR	See	100.0	126.1	NA	MS-4
	-1D)		Lims				TR - 22 Target
	-1MS						
	-1MSD						
	-2						
	-3						
	-4						
	-5						
	-6						
	-7						
	-8						
	-9						
	-10						
	-11						
	-12						
	-13						BAS 2.2.12
	1201358-1	MS					-MS: ~~X~~ RCRA
	IP120202-2MB	TR/MS					
	-2LCS						
	IM120202-2LCS						

	BAS 2.2.12				

QC Grp	Lab Sample ID	Init Vol/Wt. (mL / g)	Final Vol. (mL)	Final Wt. (g)
	BAS 2.2.12			

Spiking Information

QC	Amount
ST120103-16	1mL MS
ST110902-2	1mL C
ST110916-7	2mL Z
ST111116-1	2mL Cat

417901

ALS

MERCURY DIGESTION - SOIL

Method 7471 SOP 812/Rev 15 Date Analyzed 2.7.12 File HG120206-1** Init. [illegible] (prep.) [illegible] (analysis)

Digestion Date 2.6.12 Spike Witness N/A Time Start 1050 Time Finish 1120 Bath Temp 95°C

Tube #	Solution ID	Spike * Solution	Spike Volume (mL)	Sample **** Aliquot (g)	Final ** Volume (mL)	Comments
STD 1	0 ppb	-	-	-	100.0	
2	0.2 ppb	A	0.2	-	100.0	
3	0.5 ppb	A	0.5	-	100.0	
4	1.0 ppb	A	1.0	-	100.0	
5	2.0 ppb	A	2.0	-	100.0	
6	5.0 ppb	A	5.0	-	100.0	
7	10.0 ppb	A	10.0	-	100.0	
	ICV	B	1.0	-	100.0	
	ICB	-	-	-	100.0	
	CRA-0.2 ppb	A	0.2	-	100.0	
	SAMPLES -- Prep. Batch ID(s) HG120206-1					(see LIMs Prep. Batch report for sample info. (IDs, Aliquots, etc.)
	CCVs	A	2.0	-	100.0	2 # prepared
	CCBs	-	-	-	100.0	2 # prepared

**** Automated balance entry into LIMS.

*** See run report for run log information.

** Laboratory DI water used to make-up to final volume.

*A: 100 ppb Hg solution made from 100x dilution (1 mL/100 mL) of ST120127-1 ID

*B: 100 ppb Hg solution made from 100x dilution (1 mL/100 mL) of ST120127-5 ID (2nd source)

See run header for maintenance performed.

Digestion Cups: 1107216

Reagents: HNO_3 K23022 HCl K29026 $SnCl_2$ RG120125-7 $KMnO_4$ RG120120-1 Hydroxylamine RG120125-6

Balance(s) Used: 29

Pipet(s) Used: M57 M61/M1010

Note: Each page is copied as completed and included with the workorder/run documentation; reviewed subsequently

APPENDIX E

LABORATORY DATA VALIDATION PACKAGES

Review of Eberline Analytical Data Package 12-01163

The subject data package was reviewed and the data appear valid.
The data package contained analytical results for 14 soil samples including one lab duplicate and one field duplicate. The lab blanks and spikes for the data package were within tolerances, and MDA's for all results were acceptable. The data package indicated a minimum 21 day holding time to allow for the ingrowth of radon daughters, and analytical results were reported for daughters of U-238 (Ra-226), Th-232, and K-40.

The data package contained analytical results for 11 samples from the JM site, and 12 background samples from the same property.
Ra-226 concentrations in all 11 site samples were significantly elevated ranging from 13 pCi/g to 317 pCi/g. All but two of the samples had a concentration in excess of 100 pCi/g. The background samples had Ra-226 concentrations of 2.6 and 2.7 pCi/g.

Th-232 ranged from 0.3 to 1.7 pCi/g, and K-40 ranged from 16 to 29 pCi/g. These concentrations are considered to be within the normal range of background concentrations.

DATA QUALITY ASSURANCE REVIEW

SITE NAME Johnny M Uranium Mine ORS

WORK ORDER NUMBER 20406.012.035.0694.01 TDD NUMBER TO-0035-11-11-01

PROJECT NUMBER SDG NUMBER 1201354

Weston Solutions, Inc. (WESTON®) has completed a QA review for Work Order Number 20406.012.035.0694.01, SDG No. 1201354, Johnny M Uranium Mine ORS. Thirteen samples were analyzed for metals by ALS Laboratory Group. Sample numbers are listed below.

SAMPLE NUMBERS

JM-54-31-121028	JM-55-31-121028	JM-65-31-121028
JM-66-31-121028	JM-70-31-121028	JM-70-32-121028
JM-73-31-121028	JM-77-31-121028	JM-82-31-121028
JM-84-31-121028	JM-88-31-121028	JMBKGD-NE-31-120128
JMBKGD-NW-31-120128		

This data package was validated to determine if Quality Control (QC) specifications were achieved, following *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (October, 1999), *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (July, 2002), *USEPA Contract Laboratory Program National Functional Guidelines for Chlorinated Dioxin/Furan Data Review* (August, 2002), *Quality Assurance/Quality Control Guidance for Removal Activities* (April, 1990), and the Regional Protocol for Holding Times, Blanks, and VOA Preservation (April 13, 1989). Specific data qualifications are listed in the following discussion.

REVIEWER Gloria J. Switalski DATE May 5, 2012

Data Qualifiers

Data Qualifier Definitions were supplied by the Office of Solid Waste and Emergency Response (September 1989) and are included in the Functional Guidelines. Data qualifiers may be combined (UJ, QJ) with the corresponding combination of meanings. Additional qualifier may be added to provide additional, more specific information (JL, UB, QJK), modifying the meaning of the primary qualifier. Addition qualifiers utilized by WESTON are H, L, K, B, Q, and D.

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit, which has been adjusted for sample weight/sample volume, extraction volume, percent solids, sample dilution or other analysis specific parameters.

An additional qualifier, "B", may be appended to indicate that while the analyte was detected in the sample, the presence of the analyte may be attributable to blank contamination and the analyte is therefore considered undetected with the sample detection or quantitation limit for the analyte being elevated.

J - The analyte was analyzed for, but the associated numerical value may not be consistent with the amount actually present in the environmental sample or may not be consistent with the sample detection or quantitation limit. The value is an estimated quantity. The data should be seriously considered for decision-making and are usable for many purposes.

An additional qualifier will be appended to the "J" qualifier that indicates the bias in the reported results:

L Low bias

H High bias

K Unknown bias

Q The reported concentration is less than the sample quantitation limit for the specific analyte in the sample.

The L and H qualifier will only be employed when a single qualification is required. When more than one quality control parameter affects the analytical result and a conflict results in assigning a bias, the result will be flagged JK.

R - Quality Control indicates that data are unusable for all purposes. The analyte was analyzed for, but the presence or absence of the analyte has not been verified. Resampling and reanalysis are necessary for verification to confirm or deny the presence of an analyte.

N - The analysis indicates the presence of analyte for which there is presumptive evidence to make a "tentative identification."

D - The concentration reported was determined in the re-analysis of the sample at a secondary dilution.

METALS DATA EVALUATION

1. Analytical Method:

Samples were prepared and analyzed for ICP metals using the procedures specified in **SW-846 Methods 6010B/6020A.** Samples were prepared and analyzed for mercury using the procedures specified in **SW-846 Method 7471A.**

2. Holding Times:

All samples met established holding time criteria of 180 days for ICP metals and 28 days for mercury. Samples were received within 4°C±2°C. No qualifications are placed on the data.

3. Initial Calibration:

ICP initial calibration included a blank and one or more standards and initial calibration verification results fell within the control limits of 90 to 110 percent of the true values. Mercury initial calibration included a blank and six standards and the correlation coefficient was greater than 0.995. No qualifications are placed on the data.

4. Continuing Calibration:

All ICP results fell within the control limits of 90% to 110% of the true values. All mercury results fell within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

5. CRDL Standard:

All results for the CRDL standard were within the control limits of 70% to 130% of the true values or the sample results were greater than the CRDL action level. No qualifications are placed on the data.

6. Blanks:

A. Laboratory Blanks:

No target analytes were detected in the calibration and preparation blanks associated with this analytical package or the sample results were greater than the blank action concentration. No qualifications are placed on the data.

B. Field Blanks:

No field blank samples were submitted with this analytical package. No qualifications are placed on the data.

7. ICP Interference Check:

All results for the Interference Check Sample were within the control limits of 80% to 120% of the true values. No qualifications are placed on the data.

8. Laboratory Control Sample (LCS):

The recoveries for the LCS were within the established control limits. No qualifications are placed on the data.

9. Duplicate Sample Analysis:

A. Laboratory Duplicate Analysis:

Sample JM-54-31-120128 underwent duplicate analysis for ICP metals for the solid matrix. Sample JMBKGD-NW-31-120128 underwent duplicate analysis for mercury for the solid matrix. QC criteria are that the relative percent difference (RPD) values for the duplicate sample analysis be less than 35% for solid samples for concentrations greater than five times the reporting limit (RL). For sample concentrations less than five times the RL, the QC criteria are within ± two times the RL for the solid matrix. QC criteria were not met for the following analytes:

ANALYTE	MATRIX	RPD	AFFECTED SAMPLES	QUALIFIER FLAG
Barium	Solid	74	All	JK
Sodium	Solid	138	All	JK/UJK
Zinc	Solid	71	All	JK

B. Field Duplicate Analysis:

The following sample pair was submitted as field duplicates for the solid matrix: JM-70-31-120128/JM-70-32-120128. QC criteria are that the RPD values for the field duplicate sample analysis be less than 50% for solid samples for concentrations greater than five times the RL. For sample concentrations less than five times the RL, the QC criteria is that the absolute difference between the samples is less than 3.5 times the RL for the solid matrix. QC criteria were not met for the following analyte:

FIELD DUPLICATE SAMPLE PAIR	ANALYTE	MATRIX	RPD	AFFECTED SAMPLES	QUALIFIER FLAG
JM-70-31-120128/ JM-70-32-120128	Arsenic	Solid	79	All	JK

10. Spiked Sample Analysis:

Sample JM-54-31-120128 underwent spike and spike duplicate analysis for ICP metals for the solid matrix. Sample JMBKGD-NW-31-120128 underwent spike and spike duplicate analysis for mercury for the solid matrix. The spike recoveries for the following analytes were outside of the 75%-125% QC recovery limits for analytes whose sample concentration did not exceed the spike concentration by a factor of 4 times or more:

ANALYTE	MATRIX	% RECOVERY	AFFECTED SAMPLES	QUALIFIER FLAG
Antimony	Solid	51/52	All	UJL
Barium	Solid	20/24	All	JL*

ANALYTE	MATRIX	% RECOVERY	AFFECTED SAMPLES	QUALIFIER FLAG
Calcium	Solid	65/OK	All	JL
Vanadium	Solid	142/154	All	JH
Zinc	Solid	-70/-71	All	JL*

*These results were ultimately qualified JK due to high laboratory duplicate RPD as noted above and high serial dilution %D as noted below.

Post digestion spike recoveries were acceptable indicating a possible digestion problem.

11. ICP Serial Dilution:

Sample JM-54-31-120128 underwent serial dilution. The percent difference (%D) values for ICP serial dilution analysis were within the QC limits of 10% for all analytes with concentrations greater than 50 times their method detection limit (MDL) with the following exceptions:

ANALYTE	MATRIX	%D	AFFECTED SAMPLES	QUALIFIER FLAG
Barium	Solid	15	All	JK
Potassium	Solid	36	All	JK
Zinc	Solid	13	All	JK

12. Sample Quantitation and Reporting Limits:

Concentrations of all reported analytes were correctly calculated.

Some analytes in some samples were analyzed at a dilution to keep the concentration within the linear range of the instrument. Reporting limits in these samples are elevated as a result of the dilutions performed.

13. Laboratory Contact

The laboratory was contacted May 3, 2012 regarding a discrepancy between a collection time listed on the chain-of-custody and that used by the laboratory. An acceptable response was received on May 3, 2012.

14. Overall Assessment:

The barium, sodium, and zinc results in all samples were estimated due to high laboratory duplicate RPD.

The arsenic result in all samples was estimated due to high field duplicate RPD.

The antimony, barium, calcium, vanadium, and zinc results in all samples were estimated due to poor MS/MSD recoveries.

The barium, potassium, and zinc results in all samples were estimated due to high serial dilution %D.

The analytical data is acceptable for use with the qualifications listed above.

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-54-31-120128
Lab ID: 1201354-1

Sample Matrix: SOIL
% Moisture: 12.5
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.027 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	6600	22		
7440-36-0	ANTIMONY	1	2.2	2.2	~~U~~ UJL	N
7440-38-2	ARSENIC	1	6.5	1.1	JK	
7440-39-3	BARIUM	1	330	11	JK	*EN
7440-41-7	BERYLLIUM	1	0.56	0.56	U	
7440-43-9	CADMIUM	1	0.56	0.56	U	
7440-70-2	CALCIUM	1	9600	110	JL	N
7440-47-3	CHROMIUM	1	5	1.1		
7440-48-4	COBALT	1	3.9	1.1		
7440-50-8	COPPER	1	7.4	1.1		
7439-89-6	IRON	1	13000	11		
7439-92-1	LEAD	1	16	0.33		
7439-95-4	MAGNESIUM	1	2500	110		
7439-96-5	MANGANESE	1	180	1.1		
7439-98-7	MOLYBDENUM	1	3.9	1.1		
7440-02-0	NICKEL	1	4.4	2.2		
7440-09-7	POTASSIUM	1	1400	110	JK	*E
7782-49-2	SELENIUM	1	11	0.56		*
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	810	110	JK	*
7440-28-0	THALLIUM	1	2.1	1.1		
7440-31-5	TIN	1	5.6	5.6	U	
7440-62-2	VANADIUM	1	90	1.1	JH	N
7440-66-6	ZINC	1	120	2.2	JK	*EN

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B
Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-55-31-120128
Lab ID: 1201354-2

Sample Matrix: SOIL
% Moisture: 7.4
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.041 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4300	21		
7440-36-0	ANTIMONY	1	2.1	2.1	~~U~~ UJL	
7440-38-2	ARSENIC	1	9.7	1	JK	
7440-39-3	BARIUM	1	93	10	JK	
7440-41-7	BERYLLIUM	1	0.52	0.52	U	
7440-43-9	CADMIUM	1	0.52	0.52	U	
7440-70-2	CALCIUM	1	11000	100	JL	
7440-47-3	CHROMIUM	1	2.9	1		
7440-48-4	COBALT	1	2.7	1		
7440-50-8	COPPER	1	5	1		
7439-89-6	IRON	1	9700	10		
7439-92-1	LEAD	1	12	0.31		
7439-95-4	MAGNESIUM	1	1800	100		
7439-96-5	MANGANESE	1	200	1		
7439-98-7	MOLYBDENUM	1	7.3	1		
7440-02-0	NICKEL	1	2.6	2.1		
7440-09-7	POTASSIUM	1	620	100	JK	
7782-49-2	SELENIUM	1	25	0.52		
7440-22-4	SILVER	1	1	1	U	
7440-23-5	SODIUM	1	100	100	~~U~~ UJK	
7440-28-0	THALLIUM	1	1.6	1		
7440-31-5	TIN	1	5.2	5.2	U	
7440-62-2	VANADIUM	1	99	1	JH	
7440-66-6	ZINC	1	18	2.1	JK	

Data Package ID: *it1201354-1*

& 5/4/12

Total ICP Metals

Method SW6010 Revision B
Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-65-31-120128
Lab ID: 1201354-3

Sample Matrix: SOIL
% Moisture: 12.7
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.001 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4300	23		
7440-36-0	ANTIMONY	1	2.3	2.3	~~U~~ UJL	
7440-38-2	ARSENIC	1	12	1.1	JK	
7440-39-3	BARIUM	1	120	11	JK	
7440-41-7	BERYLLIUM	1	0.57	0.57	U	
7440-43-9	CADMIUM	1	0.57	0.57	U	
7440-70-2	CALCIUM	1	11000	110	JL	
7440-47-3	CHROMIUM	1	2.8	1.1		
7440-48-4	COBALT	1	2.3	1.1		
7440-50-8	COPPER	1	6.9	1.1		
7439-89-6	IRON	1	7500	11		
7439-92-1	LEAD	1	20	0.34		
7439-95-4	MAGNESIUM	1	1800	110		
7439-96-5	MANGANESE	1	160	1.1		
7439-98-7	MOLYBDENUM	1	13	1.1		
7440-02-0	NICKEL	1	2.3	2.3	U	
7440-09-7	POTASSIUM	1	640	110	JK	
7782-49-2	SELENIUM	1	59	0.57		
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	110	110	~~U~~ UJK	
7440-28-0	THALLIUM	1	1.1	1.1	U	
7440-31-5	TIN	1	5.7	5.7	U	
7440-62-2	VANADIUM	1	190	1.1	JH	
7440-66-6	ZINC	1	14	2.3	JK	

Data Package ID: *it1201354-1*

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Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-66-31-120128
Lab ID: 1201354-4

Sample Matrix: SOIL
% Moisture: 15.6
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.041 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	3300	23		
7440-36-0	ANTIMONY	1	2.3	2.3	~~U~~ UJL	
7440-38-2	ARSENIC	1	4.3	1.1	JK	
7440-39-3	BARIUM	1	66	11	JK	
7440-41-7	BERYLLIUM	1	0.57	0.57	U	
7440-43-9	CADMIUM	1	0.57	0.57	U	
7440-70-2	CALCIUM	1	13000	110	JL	
7440-47-3	CHROMIUM	1	2.5	1.1		
7440-48-4	COBALT	1	3.7	1.1		
7440-50-8	COPPER	1	3.2	1.1		
7439-89-6	IRON	1	6600	11		
7439-92-1	LEAD	1	10	0.34		
7439-95-4	MAGNESIUM	1	1300	110		
7439-96-5	MANGANESE	1	170	1.1		
7439-98-7	MOLYBDENUM	1	3.7	1.1		
7440-02-0	NICKEL	1	3.1	2.3		
7440-09-7	POTASSIUM	1	560	110	JK	
7782-49-2	SELENIUM	1	15	0.57		
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	110	110	~~U~~ UJK	
7440-28-0	THALLIUM	1	1.1	1.1	U	
7440-31-5	TIN	1	5.7	5.7	U	
7440-62-2	VANADIUM	1	75	1.1	JH	
7440-66-6	ZINC	1	16	2.3	JK	

Data Package ID: *it1201354-1*

& 5/4/12

Total ICP Metals

Method SW6010 Revision B
Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-70-31-120128
Lab ID: 1201354-5

Sample Matrix: SOIL
% Moisture: 14.2
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.034 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4100	23		
7440-36-0	ANTIMONY	1	2.3	2.3	~~U~~ UJL	
7440-38-2	ARSENIC	1	14	1.1	JK	
7440-39-3	BARIUM	1	170	11	JK	
7440-41-7	BERYLLIUM	1	0.56	0.56	U	
7440-43-9	CADMIUM	1	0.56	0.56	U	
7440-70-2	CALCIUM	1	9700	110	JL	
7440-47-3	CHROMIUM	1	3.6	1.1		
7440-48-4	COBALT	1	2.9	1.1		
7440-50-8	COPPER	1	5.3	1.1		
7439-89-6	IRON	1	11000	11		
7439-92-1	LEAD	1	16	0.34		
7439-95-4	MAGNESIUM	1	1700	110		
7439-96-5	MANGANESE	1	150	1.1		
7439-98-7	MOLYBDENUM	1	11	1.1		
7440-02-0	NICKEL	1	3.1	2.3		
7440-09-7	POTASSIUM	1	670	110	JK	
7782-49-2	SELENIUM	1	43	0.56		
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	110	110	~~U~~ UJK	
7440-28-0	THALLIUM	1	1.1	1.1	U	
7440-31-5	TIN	1	5.6	5.6	U	
7440-62-2	VANADIUM	1	130	1.1	JH	
7440-66-6	ZINC	1	18	2.3	JK	

Data Package ID: *it1201354-1*

JB 3/4/12

Total ICP Metals

Method SW6010 Revision B
Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-70-32-120128
Lab ID: 1201354-6

Sample Matrix: SOIL
% Moisture: 14.2
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.004 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4000	23		
7440-36-0	ANTIMONY	1	2.3	2.3	~~U~~ UJL	
7440-38-2	ARSENIC	1	6.1	1.2	JK	
7440-39-3	BARIUM	1	170	12	JK	
7440-41-7	BERYLLIUM	1	0.58	0.58	U	
7440-43-9	CADMIUM	1	0.58	0.58	U	
7440-70-2	CALCIUM	1	14000	120	JL	
7440-47-3	CHROMIUM	1	3	1.2		
7440-48-4	COBALT	1	3.1	1.2		
7440-50-8	COPPER	1	4.6	1.2		
7439-89-6	IRON	1	8000	12		
7439-92-1	LEAD	1	15	0.35		
7439-95-4	MAGNESIUM	1	1700	120		
7439-96-5	MANGANESE	1	160	1.2		
7439-98-7	MOLYBDENUM	1	9.9	1.2		
7440-02-0	NICKEL	1	3.2	2.3		
7440-09-7	POTASSIUM	1	650	120	JK	
7782-49-2	SELENIUM	1	45	0.58		
7440-22-4	SILVER	1	1.2	1.2	U	
7440-23-5	SODIUM	1	130	120	JK	
7440-28-0	THALLIUM	1	1.2	1.2	U	
7440-31-5	TIN	1	5.8	5.8	U	
7440-62-2	VANADIUM	1	120	1.2	JH	
7440-66-6	ZINC	1	18	2.3	JK	

Data Package ID: *it1201354-1*

B 3/16/12

Total ICP Metals

Method SW6010 Revision B
Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-73-31-120128
Lab ID: 1201354-7

Sample Matrix: SOIL
% Moisture: 11.6
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.031 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4400	22		
7440-36-0	ANTIMONY	1	2.2	2.2	~~U~~ UJL	
7440-38-2	ARSENIC	1	8.5	1.1	JK	
7440-39-3	BARIUM	1	130	11	JK	
7440-41-7	BERYLLIUM	1	0.55	0.55	U	
7440-43-9	CADMIUM	1	0.55	0.55	U	
7440-70-2	CALCIUM	1	33000	110	JL	
7440-47-3	CHROMIUM	1	3.7	1.1		
7440-48-4	COBALT	1	3.3	1.1		
7440-50-8	COPPER	1	5.3	1.1		
7439-89-6	IRON	1	9100	11		
7439-92-1	LEAD	1	14	0.33		
7439-95-4	MAGNESIUM	1	1900	110		
7439-96-5	MANGANESE	1	200	1.1		
7439-98-7	MOLYBDENUM	1	4.7	1.1		
7440-02-0	NICKEL	1	4.8	2.2		
7440-09-7	POTASSIUM	1	820	110	JK	
7782-49-2	SELENIUM	1	33	0.55		
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	110	110	~~U~~ UJK	
7440-28-0	THALLIUM	1	1.3	1.1		
7440-31-5	TIN	1	5.5	5.5	U	
7440-62-2	VANADIUM	1	93	1.1	JH	
7440-66-6	ZINC	1	22	2.2	JK	

Data Package ID: *it1201354-1*

& 5/4/12

Total ICP Metals

Method SW6010 Revision B
Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-77-31-120128
Lab ID: 1201354-8

Sample Matrix: SOIL
% Moisture: 21.6
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.012 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	6500	25		
7440-36-0	ANTIMONY	1	2.5	2.5	~~U~~ UJL	
7440-38-2	ARSENIC	1	8.7	1.3	JK	
7440-39-3	BARIUM	1	91	13	JK	
7440-41-7	BERYLLIUM	1	0.63	0.63	U	
7440-43-9	CADMIUM	1	0.63	0.63	U	
7440-70-2	CALCIUM	1	10000	130	JL	
7440-47-3	CHROMIUM	1	5.9	1.3		
7440-48-4	COBALT	1	5.9	1.3		
7440-50-8	COPPER	1	9.9	1.3		
7439-89-6	IRON	1	14000	13		
7439-92-1	LEAD	1	17	0.38		
7439-95-4	MAGNESIUM	1	2500	130		
7439-96-5	MANGANESE	1	200	1.3		
7439-98-7	MOLYBDENUM	1	13	1.3		
7440-02-0	NICKEL	1	7	2.5		
7440-09-7	POTASSIUM	1	1400	130	JK	
7782-49-2	SELENIUM	1	18	0.63		
7440-22-4	SILVER	1	1.3	1.3	U	
7440-23-5	SODIUM	1	130	130	JK	
7440-28-0	THALLIUM	1	2.1	1.3		
7440-31-5	TIN	1	6.3	6.3	U	
7440-62-2	VANADIUM	1	68	1.3	JH	
7440-66-6	ZINC	1	36	2.5	JK	

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B
Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-82-31-120128	**Sample Matrix:** SOIL	**Prep Batch:** IP120202-2	**Sample Aliquot:** 1.031 G
Lab ID: 1201354-9	**% Moisture:** 9.2	**QCBatchID:** IP120202-2-1	**Final Volume:** 100 ML
	Date Collected: 28-Jan-12	**Run ID:** IT120202-2A1	**Result Units:** MG/KG
	Date Extracted: 02-Feb-12	**Cleanup:** NONE	**Clean DF:** 1
	Date Analyzed: 02-Feb-12	**Basis:** Dry Weight	
	Prep Method: SW3050 Rev B	**File Name:** 120202A.	

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	4700	21		
7440-36-0	ANTIMONY	1	2.1	2.1	~~U~~ UJL	
7440-38-2	ARSENIC	1	10	1.1	JK	
7440-39-3	BARIUM	1	78	11	JK	
7440-41-7	BERYLLIUM	1	0.53	0.53	U	
7440-43-9	CADMIUM	1	0.53	0.53	U	
7440-70-2	CALCIUM	1	16000	110	JL	
7440-47-3	CHROMIUM	1	3.8	1.1		
7440-48-4	COBALT	1	3.2	1.1		
7440-50-8	COPPER	1	4.9	1.1		
7439-89-6	IRON	1	12000	11		
7439-92-1	LEAD	1	13	0.32		
7439-95-4	MAGNESIUM	1	2100	110		
7439-96-5	MANGANESE	1	200	1.1		
7439-98-7	MOLYBDENUM	1	7.6	1.1		
7440-02-0	NICKEL	1	4	2.1		
7440-09-7	POTASSIUM	1	820	110	JK	
7782-49-2	SELENIUM	1	26	0.53		
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	110	110	~~U~~ UJK	
7440-28-0	THALLIUM	1	1.1	1.1	U	
7440-31-5	TIN	1	5.3	5.3	U	
7440-62-2	VANADIUM	1	160	1.1	JH	
7440-66-6	ZINC	1	24	2.1	JK	

Data Package ID: *it1201354-1*

5/4/12

Total ICP Metals

Method SW6010 Revision B

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-84-31-120128
Lab ID: 1201354-10

Sample Matrix: SOIL
% Moisture: 27.2
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.022 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	9000	27		
7440-36-0	ANTIMONY	1	2.7	2.7	~~U~~ UJL	
7440-38-2	ARSENIC	1	6.5	1.3	JK	
7440-39-3	BARIUM	1	100	13	JK	
7440-41-7	BERYLLIUM	1	0.77	0.67		
7440-43-9	CADMIUM	1	0.67	0.67	U	
7440-70-2	CALCIUM	1	18000	130	JL	
7440-47-3	CHROMIUM	1	8.3	1.3		
7440-48-4	COBALT	1	7.9	1.3		
7440-50-8	COPPER	1	15	1.3		
7439-89-6	IRON	1	19000	13		
7439-92-1	LEAD	1	17	0.4		
7439-95-4	MAGNESIUM	1	3000	130		
7439-96-5	MANGANESE	1	270	1.3		
7439-98-7	MOLYBDENUM	1	1.3	1.3	U	
7440-02-0	NICKEL	1	11	2.7		
7440-09-7	POTASSIUM	1	2000	130	JK	
7782-49-2	SELENIUM	1	1.7	0.67		
7440-22-4	SILVER	1	1.3	1.3	U	
7440-23-5	SODIUM	1	130	130	~~U~~ UJK	
7440-28-0	THALLIUM	1	2.2	1.3		
7440-31-5	TIN	1	6.7	6.7	U	
7440-62-2	VANADIUM	1	29	1.3	JH	
7440-66-6	ZINC	1	50	2.7	JK	

Data Package ID: *it1201354-1*

& 3/4/12

Total ICP Metals

Method SW6010 Revision B
Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JM-88-31-120128
Lab ID: 1201354-11

Sample Matrix: SOIL
% Moisture: 15.7
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.007 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	5600	24		
7440-36-0	ANTIMONY	1	2.4	2.4	~~U~~ UJL	
7440-38-2	ARSENIC	1	20	1.2	JK	
7440-39-3	BARIUM	1	87	12	JK	
7440-41-7	BERYLLIUM	1	0.59	0.59	U	
7440-43-9	CADMIUM	1	0.59	0.59	U	
7440-70-2	CALCIUM	1	8500	120	JL	
7440-47-3	CHROMIUM	1	4	1.2		
7440-48-4	COBALT	1	4.5	1.2		
7440-50-8	COPPER	1	8.6	1.2		
7439-89-6	IRON	1	13000	12		
7439-92-1	LEAD	1	19	0.35		
7439-95-4	MAGNESIUM	1	2300	120		
7439-96-5	MANGANESE	1	230	1.2		
7439-98-7	MOLYBDENUM	1	22	1.2		
7440-02-0	NICKEL	1	5.1	2.4		
7440-09-7	POTASSIUM	1	1100	120	JK	
7782-49-2	SELENIUM	1	76	0.59		
7440-22-4	SILVER	1	1.2	1.2	U	
7440-23-5	SODIUM	1	120	120	~~U~~ UJK	
7440-28-0	THALLIUM	1	2.9	1.2		
7440-31-5	TIN	1	5.9	5.9	U	
7440-62-2	VANADIUM	1	160	1.2	JH	
7440-66-6	ZINC	1	31	2.4	JK	

Data Package ID: *it1201354-1*

Total ICP Metals

Method SW6010 Revision B
Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID:	JMBKGD-NE-31-120128
Lab ID:	1201354-12

Sample Matrix: SOIL
% Moisture: 11.2
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.033 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	3000	22		
7440-36-0	ANTIMONY	1	2.2	2.2	~~U~~ UJL	
7440-38-2	ARSENIC	1	1.8	1.1	JK	
7440-39-3	BARIUM	1	51	11	JK	
7440-41-7	BERYLLIUM	1	0.54	0.54	U	
7440-43-9	CADMIUM	1	0.54	0.54	U	
7440-70-2	CALCIUM	1	1100	110	JL	
7440-47-3	CHROMIUM	1	3.5	1.1		
7440-48-4	COBALT	1	2.2	1.1		
7440-50-8	COPPER	1	3.5	1.1		
7439-89-6	IRON	1	7800	11		
7439-92-1	LEAD	1	6.5	0.33		
7439-95-4	MAGNESIUM	1	970	110		
7439-96-5	MANGANESE	1	130	1.1		
7439-98-7	MOLYBDENUM	1	1.1	1.1	U	
7440-02-0	NICKEL	1	4	2.2		
7440-09-7	POTASSIUM	1	770	110	JK	
7782-49-2	SELENIUM	1	0.81	0.54		
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	110	110	~~U~~ UJK	
7440-28-0	THALLIUM	1	1.7	1.1		
7440-31-5	TIN	1	5.4	5.4	U	
7440-62-2	VANADIUM	1	8.9	1.1	JH	
7440-66-6	ZINC	1	19	2.2	JK	

Data Package ID: *it1201354-1*

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Total ICP Metals

Method SW6010 Revision B
Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1201354
Client Name: Weston Solutions, Inc.
ClientProject ID: Johnny M ORS TO0035111101-120130-0002

Field ID: JMBKGD-NW-31-120128
Lab ID: 1201354-13

Sample Matrix: SOIL
% Moisture: 7.4
Date Collected: 28-Jan-12
Date Extracted: 02-Feb-12
Date Analyzed: 02-Feb-12
Prep Method: SW3050 Rev B

Prep Batch: IP120202-2
QCBatchID: IP120202-2-1
Run ID: IT120202-2A1
Cleanup: NONE
Basis: Dry Weight
File Name: 120202A.

Sample Aliquot: 1.014 G
Final Volume: 100 ML
Result Units: MG/KG
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	1	6100	21		
7440-36-0	ANTIMONY	1	2.1	2.1	~~U~~ UJL	
7440-38-2	ARSENIC	1	7	1.1	JK	
7440-39-3	BARIUM	1	100	11	JK	
7440-41-7	BERYLLIUM	1	0.64	0.53		
7440-43-9	CADMIUM	1	0.53	0.53	U	
7440-70-2	CALCIUM	1	4600	110	JL	
7440-47-3	CHROMIUM	1	7.4	1.1		
7440-48-4	COBALT	1	7	1.1		
7440-50-8	COPPER	1	9.9	1.1		
7439-89-6	IRON	5	27000	53		
7439-92-1	LEAD	5	11	1.6		
7439-95-4	MAGNESIUM	1	2800	110		
7439-96-5	MANGANESE	1	270	1.1		
7439-98-7	MOLYBDENUM	1	1.1	1.1	U	
7440-02-0	NICKEL	1	7.7	2.1		
7440-09-7	POTASSIUM	1	2300	110	JK	
7782-49-2	SELENIUM	5	2.7	2.7	U	
7440-22-4	SILVER	1	1.1	1.1	U	
7440-23-5	SODIUM	1	130	110	JK	
7440-28-0	THALLIUM	5	5.3	5.3	U	
7440-31-5	TIN	1	5.3	5.3	U	
7440-62-2	VANADIUM	5	19	5.3	JH	
7440-66-6	ZINC	1	40	2.1	JK	

Data Package ID: *it1201354-1*

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Total URANIUM

Method SW6020 Revision A

Sample Results

Lab Name: ALS Environmental -- FC
Client Name: Weston Solutions, Inc.
Client Project ID: Johnny M ORS TO0035111101-120130-0002
Work Order Number: 1201354 **Final Volume:** 100 ml
Reporting Basis: Dry Weight **Matrix:** SOIL
Prep Method: SW3050B **Result Units:** UG/KG

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag	Sample Aliquot
JM-54-31-120128	1201354-1	01/28/2012	02/02/2012	02/03/2012	12.5	10	38000	11		1.027 g
JM-55-31-120128	1201354-2	01/28/2012	02/02/2012	02/03/2012	7.4	100	140000	100		1.041 g
JM-65-31-120128	1201354-3	01/28/2012	02/02/2012	02/03/2012	12.7	100	440000	110		1.001 g
JM-66-31-120128	1201354-4	01/28/2012	02/02/2012	02/03/2012	15.6	10	43000	11		1.041 g
JM-70-31-120128	1201354-5	01/28/2012	02/02/2012	02/03/2012	14.2	100	250000	110		1.034 g
JM-70-32-120128	1201354-6	01/28/2012	02/02/2012	02/03/2012	14.2	100	290000	120		1.004 g
JM-73-31-120128	1201354-7	01/28/2012	02/02/2012	02/03/2012	11.6	100	140000	110		1.031 g
JM-77-31-120128	1201354-8	01/28/2012	02/02/2012	02/03/2012	21.6	100	330000	130		1.012 g
JM-82-31-120128	1201354-9	01/28/2012	02/02/2012	02/03/2012	9.2	100	150000	110		1.031 g
JM-84-31-120128	1201354-10	01/28/2012	02/02/2012	02/03/2012	27.2	10	32000	13		1.022 g
JM-88-31-120128	1201354-11	01/28/2012	02/02/2012	02/03/2012	15.7	100	330000	120		1.007 g
JMBKGD-NE-31-120128	1201354-12	01/28/2012	02/02/2012	02/03/2012	11.2	10	2100	11		1.033 g
JMBKGD-NW-31-120128	1201354-13	01/28/2012	02/02/2012	02/03/2012	7.4	10	1200	11		1.014 g

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *im1201354-1*

&3 3/4/12

Total MERCURY

Method SW7471 Revision A

Sample Results

Lab Name: ALS Environmental -- FC
Client Name: Weston Solutions, Inc.
Client Project ID: Johnny M ORS TO0035111101-120130-0002
Work Order Number: 1201354 **Final Volume:** 100 g
Reporting Basis: Dry Weight **Matrix:** SOIL
Prep Method: METHOD **Result Units:** MG/KG

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag	Sample Aliquot
JM-54-31-120128	1201354-1	01/28/2012	02/06/2012	02/07/2012	12.5	1	0.037	0.037	U	0.614 g
JM-55-31-120128	1201354-2	01/28/2012	02/06/2012	02/07/2012	7.4	1	0.035	0.035	U	0.616 g
JM-65-31-120128	1201354-3	01/28/2012	02/06/2012	02/07/2012	12.7	1	0.053	0.038		0.603 g
JM-66-31-120128	1201354-4	01/28/2012	02/06/2012	02/07/2012	15.6	1	0.039	0.039	U	0.613 g
JM-70-31-120128	1201354-5	01/28/2012	02/06/2012	02/07/2012	14.2	1	0.039	0.039	U	0.605 g
JM-70-32-120128	1201354-6	01/28/2012	02/06/2012	02/07/2012	14.2	1	0.039	0.039	U	0.6 g
JM-73-31-120128	1201354-7	01/28/2012	02/06/2012	02/07/2012	11.6	1	0.037	0.037	U	0.615 g
JM-77-31-120128	1201354-8	01/28/2012	02/06/2012	02/07/2012	21.6	1	0.046	0.042		0.604 g
JM-82-31-120128	1201354-9	01/28/2012	02/06/2012	02/07/2012	9.2	1	0.036	0.036	U	0.608 g
JM-84-31-120128	1201354-10	01/28/2012	02/06/2012	02/07/2012	27.2	1	0.045	0.045	U	0.61 g
JM-88-31-120128	1201354-11	01/28/2012	02/06/2012	02/07/2012	15.7	1	0.072	0.039		0.602 g
JMBKGD-NE-31-120128	1201354-12	01/28/2012	02/06/2012	02/07/2012	11.2	1	0.037	0.037	U	0.614 g
JMBKGD-NW-31-120128	1201354-13	01/28/2012	02/06/2012	02/07/2012	7.4	1	0.036	0.036	U	0.608 g

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *hg1201354-1*

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APPENDIX F

REFERENCE DOCUMENTATION

DEC 21 1990

URFO:DLJ
Docket No. 40-8914
SUA-1482
04008914090E

MEMORANDUM FOR: William Brown, Regional Counsel
Region IV

THRU: A. Bill Beach, Director
Division of Radiation Safety and Safeguards
Region IV

FROM: Ramon E. Hall, Director
Uranium Recovery Field Office
Division of Radiation Safety and Safeguards
Region IV

SUBJECT: TERMINATION OF THE SOURCE MATERIAL LICENSE ISSUED TO HECLA MINING COMPANY FOR THE JOHNNY M MINE, SAN MATEO, NEW MEXICO

BACKGROUND

The Johnny M Mine located near San Mateo, New Mexico, was operated by Ranchers Exploration and Development (predecessor to Hecla) from early 1972 to late 1982. The mining sequence at the mine included backfilling of the mined-out areas with mill tailings returned to the site from the mill which processed the ore. To accomplish this, two surface injection locations were used for storage of the uranium tailings prior to disposal in the mine stopes. According to New Mexico records, these two areas covered approximately one acre at the north and one acre at the south injection site. The tailings were slurried and then pumped into the mine to prevent caving and "reduce the vulnerability of possible breaks in the integrity of the Dakota aquifer located above the mine." An estimated 286,000 tons of tailings were injected into the mine. Disposal depths ranged from 1134 feet to 1148 feet and from 1162 feet to 1183 feet below the surface (using the shaft for datum) or about 1100 to 1300 feet underground, depending on the terrain.

Reclamation of the mine property began in early 1982. The mine shaft was sealed with a four foot thick water ring reinforced concrete plug set between the Dakota and the Westwater members of the formation. The portal was sealed

URFO:PM dlj
DLJacoby/db
12/18/90

URFO:DD EFH
EFHawkins
12/21/90

URFO:D:RIV EFH for
REHall
12/21/90

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with a 12-inch thick reinforced concrete plug, and a 20-inch diameter capped steel pipe was set in the concrete. The surface was then covered with earthen materials during site recontouring. The location of the shaft is not presently obvious due to the revegatated surface.

DISCUSSION

By letter dated September 28, 1988, Hecla requested an amendment to their licence to incorporate their proposed reclamation plan. The reclamation for the site consists of cleanup of the remaining surface contaminatation to appropriate standards, and leaves the underground tailings undisturbed. The contaminated material will be transported to and disposed of at the Quivira Mining Company's Pond 2 disposal area. After several revisions to the proposed plan, NRC was in agreement with the proposed cleanup plan submitted May 4, 1990, and an amendment was issued on October 12, 1990.

By letter dated October 18, 1990, Hecla requested that NRC terminate their license after the cleanup (reclamation) of the surface is complete. We are requesting that you review the situation and indicate if NRC will be able to terminate the license upon successful completion of the surface cleanup.

Issues to Consider

1. The siting criteria discussed in 10 CFR 40, Appendix A, Criterion 1 is met by underground disposal. Criterion 3 sets the "prime option" for disposal of tailings below grade in mines.

2. The Appendix A Criteria 4 and 6 controlling the attenuation of radon releases and the erosion protection design would not be applicable at the site after cleanup is completed as there would be no tailings remaining on the surface to protect.

3. The risk to workers would clearly be greater than the benefit to the public health and safety if cleanup of the buried tailings were required. The exception to this could possibly be the issue of ground water. The milling process produces fine grain tailings which have a greater surface area than the former ore. This allows trace metals, residual radionuclides, as well as anions and cations to easily go into solution. If necessary, NRC may want to consider application of supplement standards similar to those applied at Title I sites. Hecla has indicated that no shallow ground water has been identified at the site. Piezometric depth to the primary aquifer is reportedly 800 feet. The distance between the tailings filled stopes and the overlying Dakota aquifer is reportedly 130 to 150 feet. The mine reportedly is separated from the aquifer by a confining bed of "bentonitic clays."

4. The land owner is reportedly reluctant to sell the land. Therefore, Hecla does not propose to turn the land over to the government. Criterion 11 may provide for this situation by including an exclusion to title: "In some rare cases, such as may occur with deep burial where no ongoing site

surveillance will be required, surface land ownership transfer requirement may be waived." If the surface is cleaned to release standards, no site surveillance would be necessary for the tailings disposed of in the underground mine as per Criterion 12.

5. The State of New Mexico authorized the mine backfill at the Johnny M Mine. Also, the license for a similar mine backfill site, UNC's North Church Rock Mine, had been terminated by the State prior to return of the program to NRC.

RECOMMENDATION

Hecla's request regarding determination of the requirements of license termination prior to initiating surface cleanup at the site is prudent for all parties involved. We recommend that Hecla's license be terminated upon verification by NRC that surface cleanup efforts have been successful. Termination of the license should not require transfer of land title to the State of New Mexico or a federal government agency and should not require a long term surveillance fee. This recommendation is based on the 5 items discussed above.

Original signed by
Edward F. Hawkins

for Ramon E. Hall, Director
Uranium Recovery Field Office
Division of Radiation Safety and Safeguards
Region IV

cc:
PLohaus

bcc:

Docket File No. 40-8914
PDR/DCS
URFO r/f
ABBeach, RIV
LLO Branch, LLWM
DLJacoby
BGarcia, RCPD, NM
~~EMontoya, NM~~
8914/090E/DLJ/90/12/13/M

APPENDIX G

TDD NO. TO-0035-11-11-01 AND AMENDMENTS A-C

EPA

U.S. EPA
Washington, DC 20460

START3
Technical Direction Document

Assessment/Inspection Activities - Enforcement Funds (0035)
Weston Solutions, Inc.

TDD #: TO-0035-11-11-01
Contract: EP-W-06-042

! = required field ☐ Moved To EAS

Note: Remaining Amount includes $0.00 in Reserve.

TDD Name:	Johnny M Uranium Mine ORS	! Period:	Base Period
! Purpose:	Work Assignment Initiation		
! Priority:	High	! Start Date:	12/13/2011
Overtime:	Yes	! Completion Date:	02/15/2012
! Funding Category:	Removal	Invoice Unit:	

! Project/Site Name:	Johnny M Uranium Mine ORS	WorkArea:	ASSESSMENT/INSPECTIONS ACTIVITIES
Project Address:		Activity:	Expanded Site Inspections/Remedial Investigation (ESI/RI)
County:	McKinley	Work Area Code:	
City, State:	, NM	Activity Code:	
Zip:		EMERGENCY CODE:	☐ KAT ☐ RIT
! SSID:	A6AH	FPN:	
CERCLIS:	NMN0006607139	Performance Based:	No
Operable Unit:			

Authorized TDD Ceiling:	Cost/Fee	LOE (Hours)
Previous Action(s):	$0.00	0.0
This Action:	$26,661.00	0.0
New Total:	$26,661.00	0.0

Specific Elements

Description of Work:

All activities performed in support of this TDD shall be in accordance with the contract and TO PWS.

Funding for this TDD is from a sweep of the dollars from the United Western TDD. The Grants Mining District provided significant uranium extraction and production in New Mexico from the 1950s until late into the 20th century. There are three mining sub-districts within the Grants Mining District: Ambrosia Lake, Laguna, and Marquez. Land ownership within these sub-districts consists of public, tribal and private property. These mining sub-districts contain 97 former legacy uranium mines and five mill sites. The EPA is currently assessing the mine sites for releases that may have impacted soil, surface water and groundwater. Under this TDD, the contractor will investigate mine water discharge locations, sample potentially impacted soil for elevated concentrations of elemental uranium and radionuclides, sample any surface water present for metals and radionuclides, and sample any accessible groundwater wells in the immediate area of the Johnny M Mine site in the Ambrosia Lake sub-district. The contractor will document mine site features (e.g. open mine portals, waste rock piles, mine operation-related structures, etc.) and sample locations with photographs, descriptions, and geospatially. A draft and final report will be written for the mine site. Coordinate with SAM, Lisa Price at price.lisa@epa.gov or 214-665-6744, upon receipt of the TDD.

Accounting and Appropriation Information

SFO: 22

Line	DCN	IFMS	Budget/ FY	Appropriation Code	Budget Org Code	Program Element	Object Class	Site Project	Cost Org Code	Amount
1	ENC036	XXX	11	T	06S	302EC7C	2505	A6AH??00	C001	$9,541.00
2	ENC035	XXX	11	TCD	06S	302EC7C	2505	A6AH??00	C001	$17,120.00

Funding Summary:	Funding
Previous:	$0.00
This Action:	$26,661.00
Total:	$26,661.00

Funding Category

Removal

Section

- Signed by Terri Lewis/DC/USEPA/US on 12/06/2011 12:49:27 PM, according to Jeff Criner/start6/rfw-s

: Lisa Price **Date:** 11/29/2011

Phone #:

Project Officer Section - Signed by Cora Stanley/R6/USEPA/US on 12/13/2011 09:32:41 AM, according to Jef

Project Officer: Linda Carter **Date:** 12/13/2011

Contracting Officer Section - Signed by Cora Stanley/R6/USEPA/US on 12/13/2011 09:32:41 AM, according t

Contracting Officer: Cora Stanley **Date:** 12/13/2011

Contractor Section - Signed by Terri Lewis/DC/USEPA/US on 12/06/2011 12:49:27 PM, according to Jeff

Contractor Contact: **Date:**

EPA

U.S. EPA
Washington, DC 20460

START3
Technical Direction Document

Assessment/Inspection Activities -
Enforcement Funds (0035)
Weston Solutions, Inc.

TDD #: TO-0035-11-11-01
Amendment#:A
Contract: EP-W-06-042

! = required field ☐ Moved To EAS

TDD Name:	Johnny M Uranium Mine ORS	! Period:	Base Period
! Purpose:	Change Period of Performance		
! Priority:	High	! Start Date:	12/13/2011
Overtime:	Yes	! Completion Date:	06/15/2012
! Funding Category:	Removal	Invoice Unit:	

! Project/Site Name:	Johnny M Uranium Mine ORS	WorkArea:	ASSESSMENT/INSPECTIONS ACTIVITIES
Project Address:		Activity:	Expanded Site Inspections/Remedial Investigation (ESI/RI)
County:	McKinley	Work Area Code:	
City, State:	, NM	Activity Code:	
Zip:		EMERGENCY CODE:	☐ KAT ☐ RIT
! SSID:	A6AH	FPN:	
CERCLIS:	NMN0006607139	Performance Based:	No
Operable Unit:			

Authorized TDD Ceiling:	Cost/Fee	LOE (Hours)
Previous Action(s):	$26,661.00	0.0
This Action:	$0.00	0.0
New Total:	$26,661.00	0.0

Specific Elements

Description of Work:

All activities performed in support of this TDD shall be in accordance with the contract and TO PWS.

Amendment A extends the period of performance to 6/15/2012 due to weather conditions preventing field investigation. There is no increase in cost/fee.

Funding for this TDD is from a sweep of the dollars from the United Western TDD. The Grants Mining District provided significant uranium extraction and production in New Mexico from the 1950s until late into the 20th century. There are three mining sub-districts within the Grants Mining District: Ambrosia Lake, Laguna, and Marquez. Land ownership within these sub-districts consists of public, tribal and private property. These mining sub-districts contain 97 former legacy uranium mines and five mill sites. The EPA is currently assessing the mine sites for releases that may have impacted soil, surface water and groundwater. Under this TDD, the contractor will investigate mine water discharge locations, sample potentially impacted soil for elevated concentrations of elemental uranium and radionuclides, sample any surface water present for metals and radionuclides, and sample any accessible groundwater wells in the immediate area of the Johnny M Mine site in the Ambrosia Lake sub-district. The contractor will document mine site features (e.g. open mine portals, waste rock piles, mine operation-related structures, etc.) and sample locations with photographs, descriptions, and geospatially. A draft and final report will be written for the mine site. Coordinate with SAM, Lisa Price at price.lisa@epa.gov or 214-665-6744, upon receipt of the TDD.

Accounting and Appropriation Information

SFO:

Line	DCN	IFMS	Budget/ FY	Appropriation Code	Budget Org Code	Program Element	Object Class	Site Project	Cost Org Code	Amount
1 2										$0.00

Funding Summary:	Funding
Previous:	$26,661.00
This Action:	$0.00
Total:	$26,661.00

Funding Category

Removal

Section

- Signed by Lisa Price/R6/USEPA/US on 01/12/2012 03:49:31 PM, according to Cheng Wei Feng/start(

: Lisa Price **Date:** 01/12/2012

Phone #:

Project Officer Section - Signed by Linda Carter/R6/USEPA/US on 01/13/2012 07:15:41 AM, according to Cl

Project Officer: Linda Carter **Date:** 01/12/2012

Contracting Officer Section - Signed by Cora Stanley/R6/USEPA/US on 01/12/2012 04:50:19 PM, according

Contracting Officer: Cora Stanley **Date:** 01/12/2012

Contractor Section

Contractor Contact: **Date:**

EPA
U.S. EPA
Washington, DC 20460

START3
Technical Direction Document

Assessment/Inspection Activities -
Enforcement Funds (0035)
Weston Solutions, Inc.

TDD #: TO-0035-11-11-01
Amendment#:B
Contract: EP-W-06-042

! = required field ☐ Moved To EAS

TDD Name:	Johnny M Uranium Mine ORS	! Period:	Base Period
! Purpose:	Set/Revise Expenditure Limit		
! Priority:	High	! Start Date:	12/13/2011
Overtime:	Yes	! Completion Date:	06/15/2012
! Funding Category:	Removal	Invoice Unit:	

! Project/Site Name:	Johnny M Uranium Mine ORS	WorkArea:	ASSESSMENT/INSPECTIONS ACTIVITIES
Project Address:		Activity:	Expanded Site Inspections/Remedial Investigation (ESI/RI)
County:	McKinley	Work Area Code:	
City, State:	, NM	Activity Code:	
Zip:		EMERGENCY CODE:	☐ KAT ☐ RIT
! SSID:	A6AH	FPN:	
CERCLIS:	NMN0006607139	Performance Based:	No
Operable Unit:			

Authorized TDD Ceiling:	Cost/Fee	LOE (Hours)
Previous Action(s):	$26,661.00	0.0
This Action:	$3,000.00	0.0
New Total:	$29,661.00	0.0

Specific Elements

Description of Work:

All activities performed in support of this TDD shall be in accordance with the contract and TO PWS.

Amendment B is for adding $3000 to the TDD; the additional funds are from the originally Ann Lee TDD. The total funding is $29,661.

Amendment A extends the period of performance to 6/15/2012 due to weather conditions preventing field investigation. There is no increase in cost/fee.

Funding for this TDD is from a sweep of the dollars from the United Western TDD. The Grants Mining District provided significant uranium extraction and production in New Mexico from the 1950s until late into the 20th century. There are three mining sub-districts within the Grants Mining District: Ambrosia Lake, Laguna, and Marquez. Land ownership within these sub-districts consists of public, tribal and private property. These mining sub-districts contain 97 former legacy uranium mines and five mill sites. The EPA is currently assessing the mine sites for releases that may have impacted soil, surface water and groundwater. Under this TDD, the contractor will investigate mine water discharge locations, sample potentially impacted soil for elevated concentrations of elemental uranium and radionuclides, sample any surface water present for metals and radionuclides, and sample any accessible groundwater wells in the immediate area of the Johnny M Mine site in the Ambrosia Lake sub-district. The contractor will document mine site features (e.g. open mine portals, waste rock piles, mine operation-related structures, etc.) and sample locations with photographs, descriptions, and geospatially. A draft and final report will be written for the mine site. Coordinate with SAM, Lisa Price at price.lisa@epa.gov or 214-665-6744, upon receipt of the TDD.

Accounting and Appropriation Information

SFO: 22

Line	DCN	IFMS	Budget/ FY	Appropriation Code	Budget Org Code	Program Element	Object Class	Site Project	Cost Org Code	Amount
1	ENC012	XXX	11	T	06S	302EC7C	2505	A6AH00	C001	$3,000.00

Funding Summary:	Funding
Previous:	$26,661.00
This Action:	$3,000.00
Total:	$29,661.00

Funding Category

Removal

Enforcement

Section

- Signed by Lisa Price/R6/USEPA/US on 02/28/2012 03:51:27 PM, according to Cheng Wei Feng/start(

: Lisa Price **Date:** 02/28/2012

Phone #:

Project Officer Section - Signed by Cora Stanley/R6/USEPA/US on 03/02/2012 10:11:27 AM, according to C

Project Officer: Linda Carter **Date:** 03/02/2012

Contracting Officer Section - Signed by Cora Stanley/R6/USEPA/US on 03/02/2012 10:11:27 AM, according

Contracting Officer: Cora Stanley **Date:** 03/02/2012

Contractor Section

Contractor Contact: **Date:**

EPA

U.S. EPA
Washington, DC 20460

START3
Technical Direction Document

Assessment/Inspection Activities -
Enforcement Funds (0035)
Weston Solutions, Inc.

TDD #: TO-0035-11-11-01
Amendment#:C
Contract: EP-W-06-042

! = required field ☐ Moved To EAS

TDD Name:	Johnny M Uranium Mine ORS	! Period:	Base Period
! Purpose:	Set/Revise Expenditure Limit		
! Priority:	High	! Start Date:	12/13/2011
Overtime:	No	! Completion Date:	06/15/2012
! Funding Category:	Removal	Invoice Unit:	

! Project/Site Name:	Johnny M Uranium Mine ORS	WorkArea:	ASSESSMENT/INSPECTIONS ACTIVITIES
Project Address:		Activity:	Expanded Site Inspections/Remedial Investigation (ESI/RI)
County:	McKinley	Work Area Code:	
City, State:	, NM	Activity Code:	
Zip:		EMERGENCY CODE:	☐ KAT ☐ RIT
! SSID:	A6AH	FPN:	
CERCLIS:	NMN0006607139	Performance Based:	No
Operable Unit:			

Authorized TDD Ceiling:	Cost/Fee	LOE (Hours)
Previous Action(s):	$29,661.00	0.0
This Action:	($1,351.48)	0.0
New Total:	$28,309.52	0.0

Specific Elements

Description of Work:

All activities performed in support of this TDD shall be in accordance with the contract and TO PWS.

Amendment C **decreases** the dollar amount for the TDD by $1351.48 per contractor's email dated 6/25/2012 and funding chart.

Amendment B is for adding $3000 to the TDD; the additional funds are from the originally Ann Lee TDD. The total funding is $29,661.

Amendment A extends the period of performance to 6/15/2012 due to weather conditions preventing field investigation. There is no increase in cost/fee.

Funding for this TDD is from a sweep of the dollars from the United Western TDD. The Grants Mining District provided significant uranium extraction and production in New Mexico from the 1950s until late into the 20th century. There are three mining sub-districts within the Grants Mining District: Ambrosia Lake, Laguna, and Marquez. Land ownership within these sub-districts consists of public, tribal and private property. These mining sub-districts contain 97 former legacy uranium mines and five mill sites. The EPA is currently assessing the mine sites for releases that may have impacted soil, surface water and groundwater. Under this TDD, the contractor will investigate mine water discharge locations, sample potentially impacted soil for elevated concentrations of elemental uranium and radionuclides, sample any surface water present for metals and radionuclides, and sample any accessible groundwater wells in the immediate area of the Johnny M Mine site in the Ambrosia

Lake sub-district. The contractor will document mine site features (e.g. open mine portals, waste rock piles, mine operation-related structures, etc.) and sample locations with photographs, descriptions, and geospatially. A draft and final report will be written for the mine site. Coordinate with SAM, Lisa Price at price.lisa@epa.gov or 214-665-6744, upon receipt of the TDD.

Accounting and Appropriation Information

SFO: 22

Line	DCN	IFMS	Budget / FY	Approp. Code	Budget Org Code	Program Element	Object Class	Site Project	Cost Org Code	Amount
1	ENC035	XXX	11	TCD	06S	302EC7C	2505	A6AHRP00	C001	$-1,351.48

Funding Summary:	Funding
Previous:	$29,661.00
This Action:	$-1,351.48
Total:	$28,309.52

Funding Category

Removal

Section

: Lisa Price by Linda Carter   Date: 06/26/2012

Phone #:

Project Officer Section - Signed by Linda Carter/R6/USEPA/US on 06/26/2012 05:05:03 PM, according to Cheng

Project Officer: Linda Carter   Date: 06/26/2012

Contracting Officer Section - Signed by Cora Stanley/R6/USEPA/US on 06/26/2012 02:56:24 PM, according to C

Contracting Officer: Cora Stanley   Date: 06/26/2012

Contractor Section - Signed by Cecilia Shappee/start6/rfw-start/us on 06/27/2012 10:07:26 AM, accordir

● No ○ Yes   During the past three (3) calendar years has your company, or any of your employees that will be working at this site, previously performed work at this site /facility?

Contractor Contact: Cecilia Shappee   Date: 06/27/2012

0 2.5 5

SCALE IN MILES

LEGEND

JOHNNY M URANIUM MINE LOCATION

NEW MEXICO

N

US EPA REGION 6
START- 3

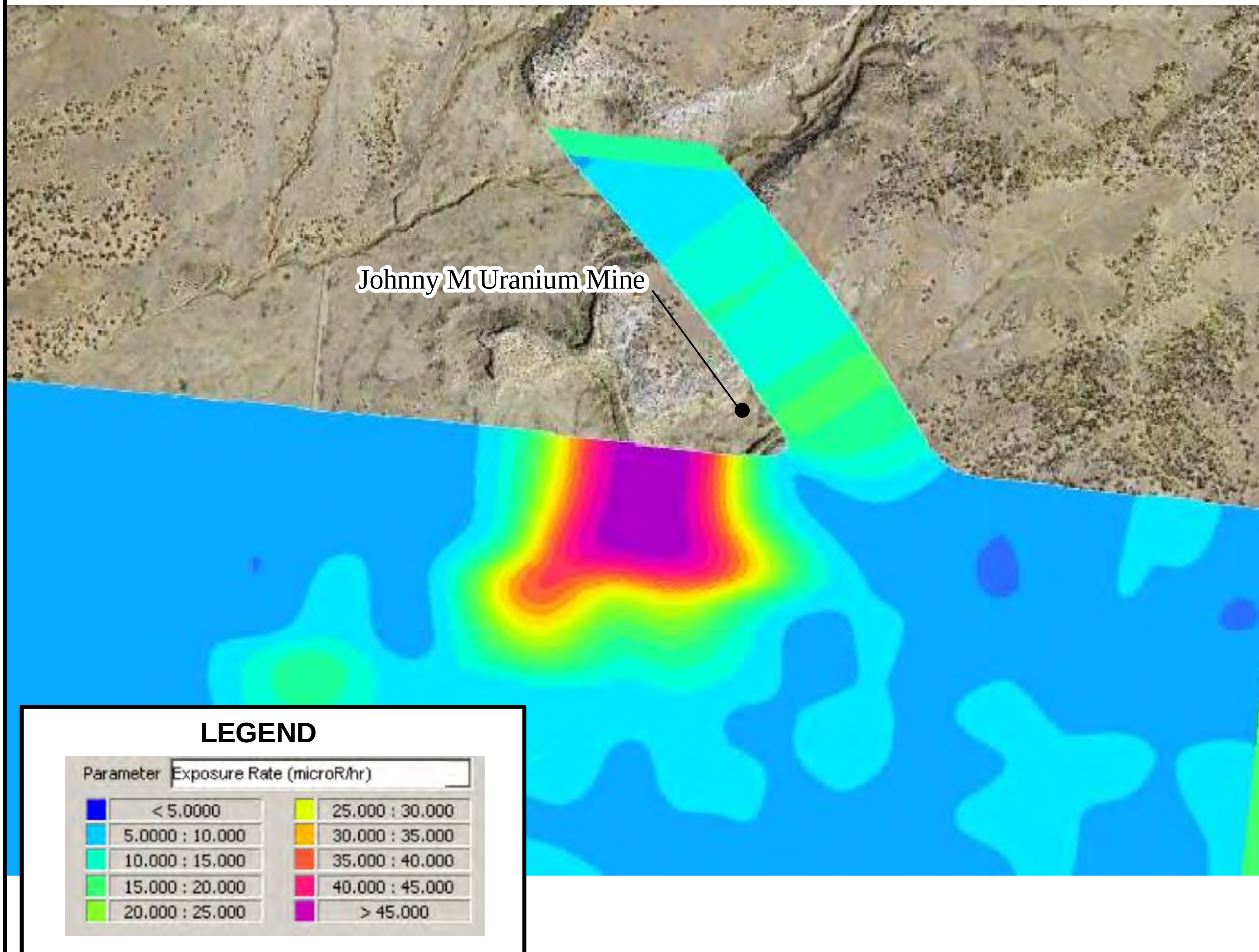
FIGURE 1-1
SITE LOCATION MAP
JOHNNY M URANIUM MINE AREA
MCKINLEY COUNTY, NEW MEXICO

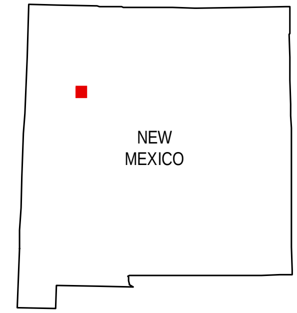
TDD NO: TO-0035-11-11-01
CERCLIS NO.: NMN000607139

SOURCE: ESRI STREETMAPS

DATE	PROJECT NO	SCALE
DEC. 2011	20406.012.035.0694.01	AS SHOWN

File: L:\20406_START3_R6\JOHNNY_M_URANIUM_MINE\GIS\FIGURE_1_SITE_LOCATION_MAP.mxd 5/9/2012 1:03:34 PM bondp





*Units are in microroentgen per hour (uR/hr)

N

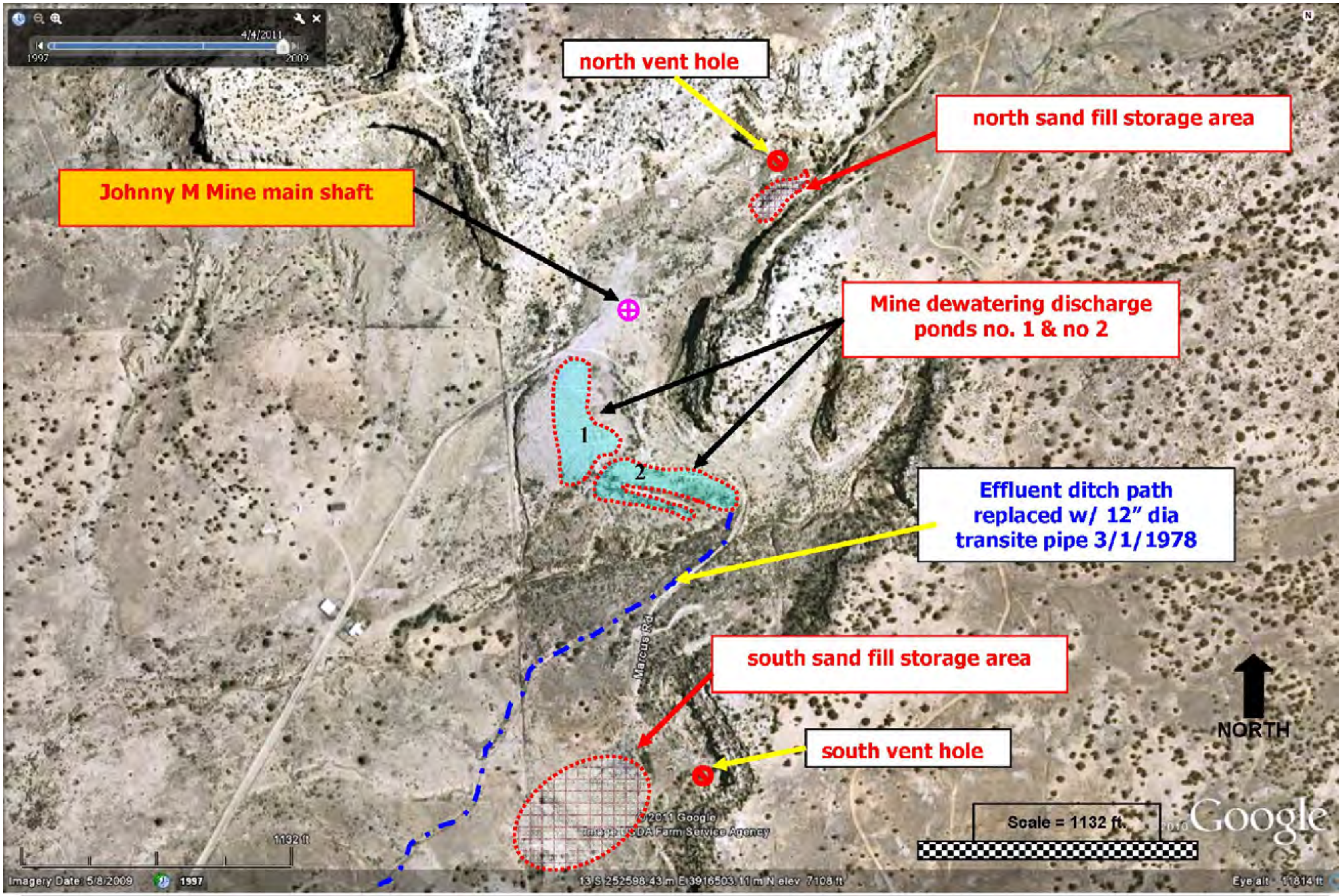
TDD NO: TO-0035-11-11-01
CERCLIS: NMN000607139
SOURCE: GOOGLE EARTH

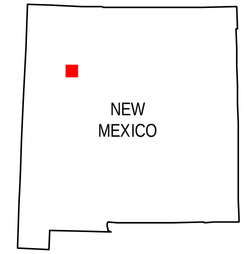
US EPA REGION 6
START- 3

FIGURE 1-2
JOHNNY M URANIUM MINE
EXPOSURE RATE MAP
EPA ASPECT OVERFLIGHT
DATE: 10/08/2009
McKINLEY COUNTY, NEW MEXICO

DATE	PROJECT NO	SCALE
APR 2012	20406.012.035.0694.01	N/A

File: \\fsnm01\data\Temp\Johnny M DRS\Figure 1-2 Exposure Rate Map.mxd, 09-May-12 13:22, STARTGIS





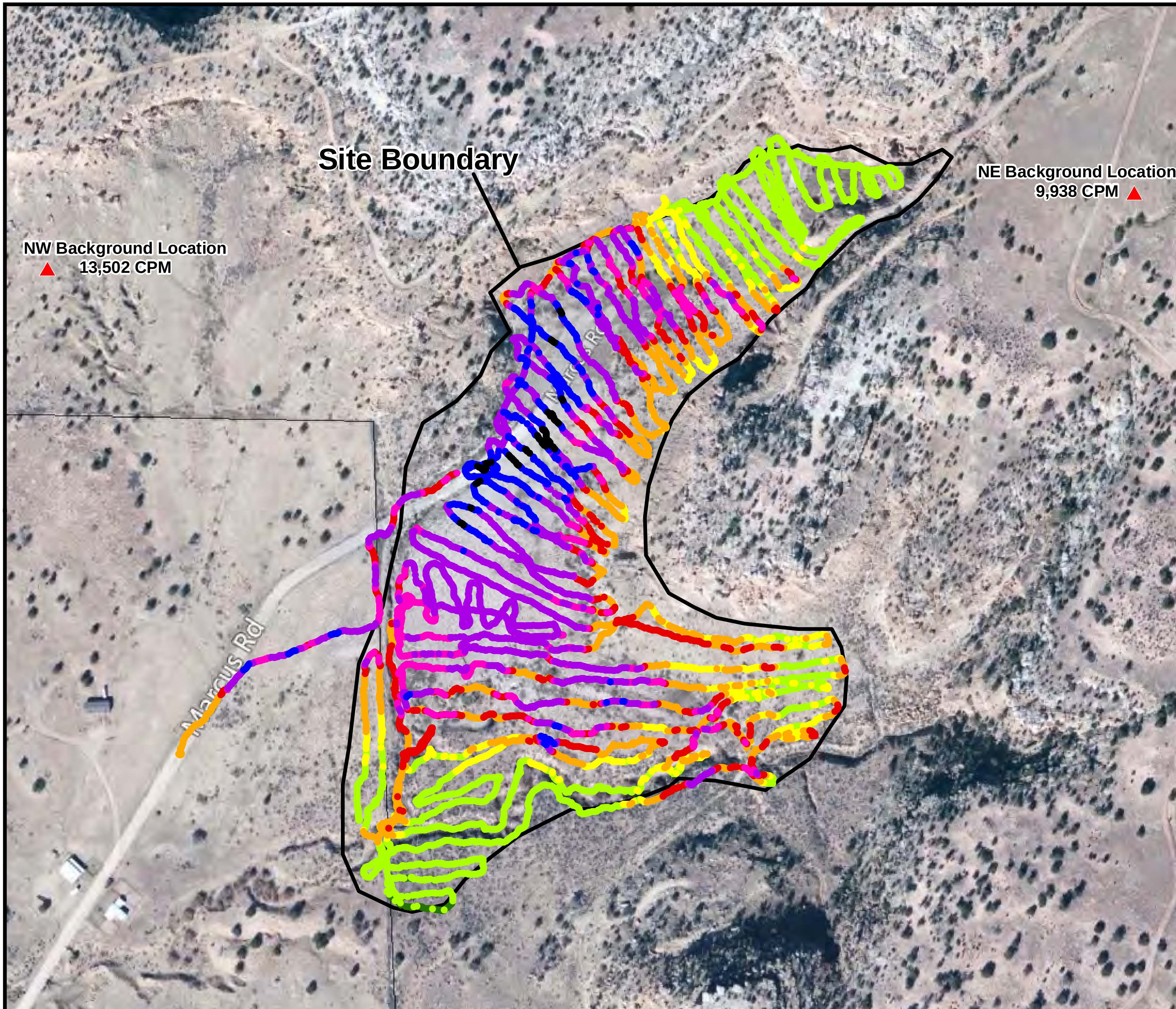
N

TDD NO: TO-0035-11-11-01
CERCLIS: NMN000607139

US EPA REGION 6

FIGURE 2-1
JOHNNY M URANIUM MINE
HISTORICAL FEATURES MAP
SAN MATEO AREA
McKINLEY COUNTY, NEW MEXICO

DATE	PROJECT NO	SCALE
APR 2012	20406.012.035.0694.01	NOT TO SCALE



NEW MEXICO

LEGEND

Gamma Scan Results (CPM)

- 0 - 11719 (<1X BKGD)
- 11720 - 23440 (1X - 2X BKGD)
- 23441 - 29999
- 30000 - 49999
- 50000 - 74999
- 75000 - 99999
- 100000 - 199999
- 200000 - 399999
- 400000 - 665629
- Background Locations (2)
- Johnny M Mine Area

N

0 250 500

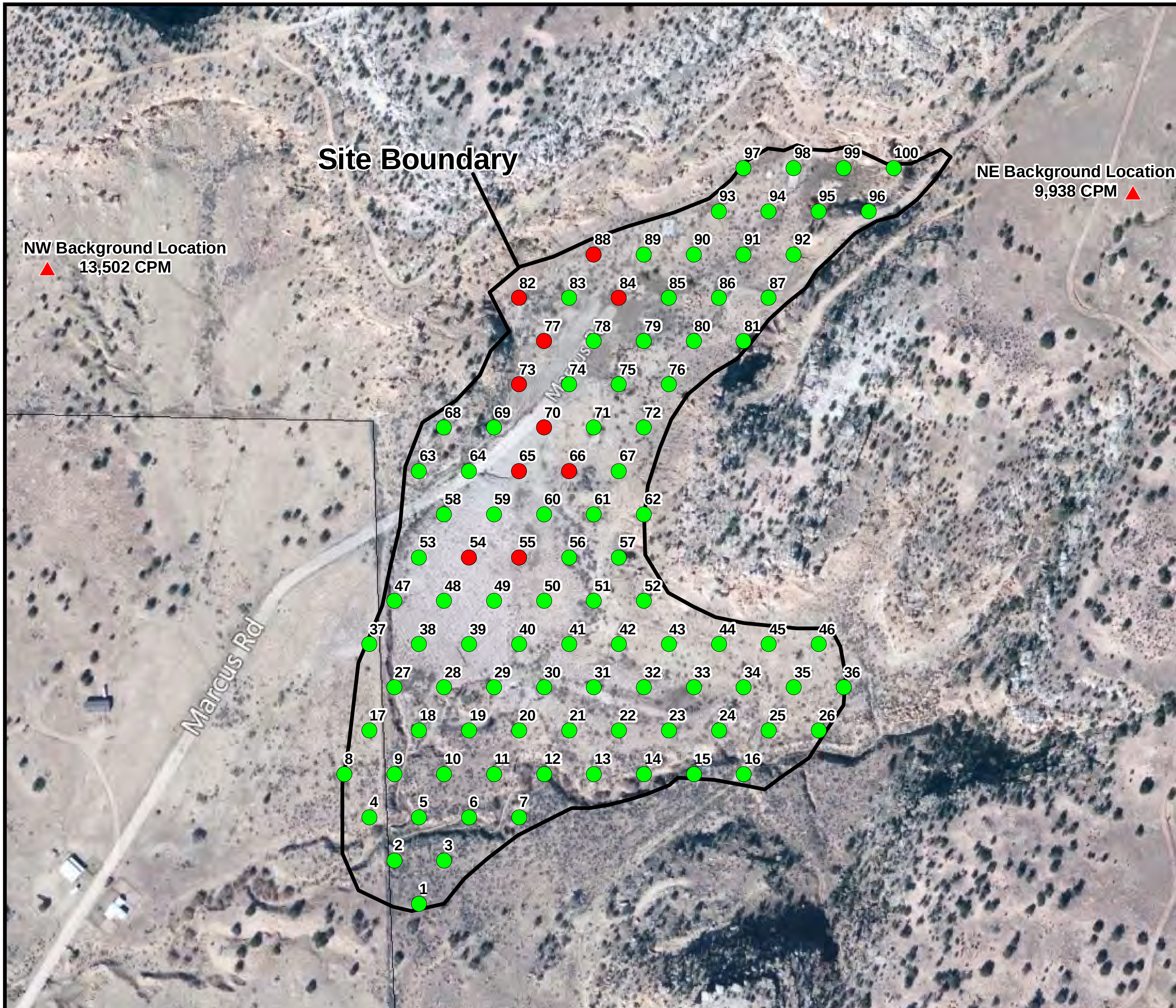
SCALE IN FEET

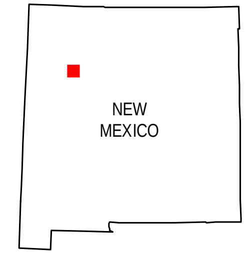
TDD NO: TO-0035-11-11-01
CERCLIS: NMN000607139

US EPA REGION 6

FIGURE 3-1
ASSESSMENT AREA MAP
JOHNNY M URANIUM MINE
SAN MATEO AREA
McKINLEY COUNTY, NEW MEXICO

DATE	PROJECT NO	SCALE
APR 2012	20406.012.035.0694.01	AS SHOWN





LEGEND

- Soil Sample Locations (10)
- Remaining Locations (90)
- Background Locations (2)
- Johnny M Mine Area

N

0 250 500

SCALE IN FEET

TDD NO: TO-0035-11-11-01
CERCLIS: NMN000607139

US EPA REGION 6

FIGURE 3-2
STATIONARY READINGS MAP
JOHNNY M URANIUM MINE
SAN MATEO AREA
McKINLEY COUNTY, NEW MEXICO

DATE	PROJECT NO	SCALE
APR 2012	20406.012.035.0694.01	AS SHOWN

Table 3-1
Site Gamma Radiation Distribution
Johnny M Uranium Mine
Grants Legacy Mine Sites
Grants, McKinley County, New Mexico

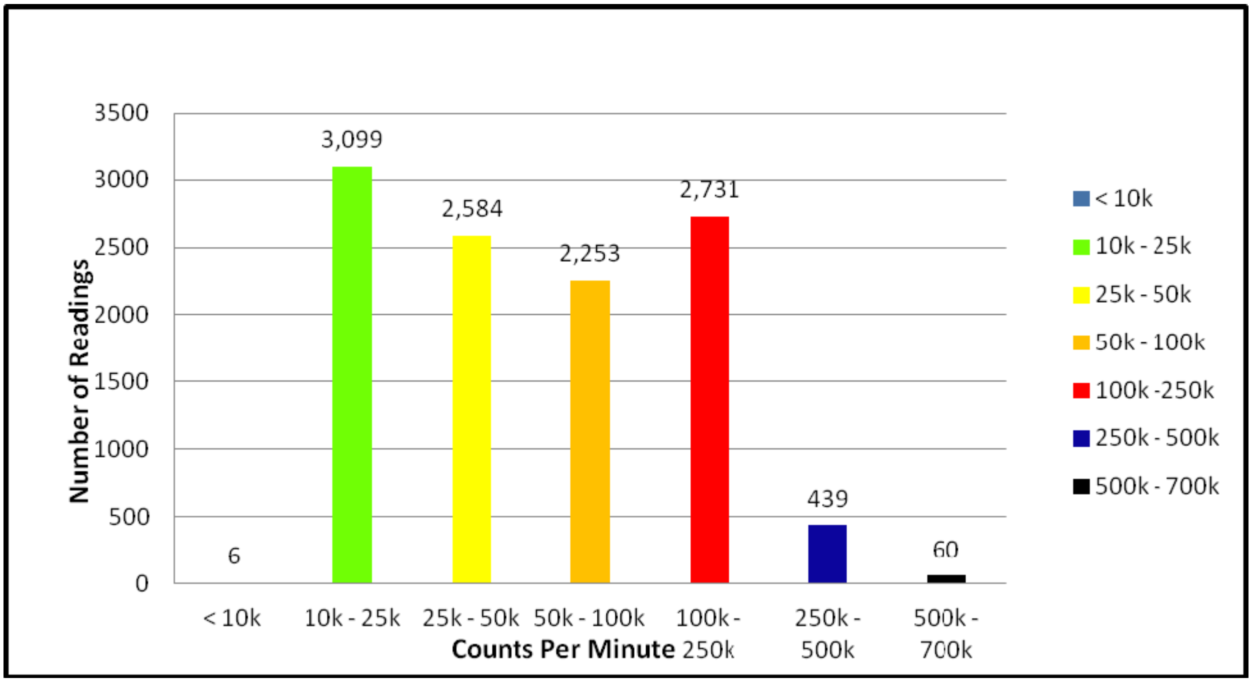


Table 3-2
Stationary Gamma Measurements Summary
Johnny M Uranium Mine
Grants Legacy Mine Sites
Grants, McKinley County, New Mexico

Stationary Location ID	Gamma Activity (Counts Per Minute)	Remark
JM-01-21-120128	11,346	
JM-02-21-120128	15,111	
JM-03-21-120128	15,653	
JM-04-21-120128	17,240	
JM-05-21-120128	16,733	
JM-06-21-120128	17,446	
JM-07-21-120128	17,899	
JM-08-21-120128	22,988	
JM-09-21-120128	12,233	
JM-10-21-120128	7,624	
JM-11-21-120128	7,991	
JM-12-21-120128	8,388	
JM-13-21-120128	6,907	
JM-14-21-120128	8,884	
JM-15-21-120128	18,836	
JM-16-21-120128	13,197	
JM-17-21-120128	**26,452**	>2X Background
JM-18-21-120128	10,441	
JM-19-21-120128	10,306	
JM-20-21-120128	12,742	
JM-21-21-120128	15,892	
JM-22-21-120128	13,068	
JM-23-21-120128	20,209	
JM-24-21-120128	21,234	
JM-25-21-120128	8,726	
JM-26-21-120128	7,357	
JM-27-21-120128	**89,629**	>2X Background
JM-28-21-120128	23,179	
JM-29-21-120128	16,466	
JM-30-21-120128	**34,716**	>2X Background
JM-31-21-120128	**35,038**	>2X Background
JM-32-21-120128	**24,034**	>2X Background
JM-33-21-120128	13,612	
JM-34-21-120128	9,059	
JM-35-21-120128	6,288	
JM-36-21-120128	15,608	
JM-37-21-120128	**103,446**	>2X Background
JM-38-21-120128	**29,449**	>2X Background
JM-39-21-120128	**28,809**	>2X Background
JM-40-21-120128	**39,937**	>2X Background

Table 3-2
Stationary Gamma Measurements Summary
Johnny M Uranium Mine
Grants Legacy Mine Sites
Grants, McKinley County, New Mexico
(Continued)

Stationary Location ID	Gamma Activity (Counts Per Minute)	Remark
JM-41-21-120128	**32,671**	>2X Background
JM-42-21-120128	14,265	
JM-43-21-120128	9,338	
JM-44-21-120128	12,885	
JM-45-21-120128	11,575	
JM-46-21-120128	6,615	
JM-47-21-120128	**35,205**	>2X Background
JM-48-21-120128	**34,040**	>2X Background
JM-49-21-120128	**36,084**	>2X Background
JM-50-21-120128	**30,876**	>2X Background
JM-51-21-120128	21,572	
JM-52-21-120128	11,596	
JM-53-21-120128	**33,069**	>2X Background
JM-54-21-120128	**251,115**	Sample Collected; >2X Background
JM-55-21-120128	**156,052**	Sample Collected; >2X Background
JM-56-21-120128	**87,152**	>2X Background
JM-57-21-120128	**42,189**	>2X Background
JM-58-21-120128	**158,596**	>2X Background
JM-59-21-120128	**181,572**	>2X Background
JM-60-21-120128	**177,434**	>2X Background
JM-61-21-120128	**45,968**	>2X Background
JM-62-21-120128	**27,285**	>2X Background
JM-63-21-120128	**187,179**	>2X Background
JM-64-21-120128	**261,988**	>2X Background
JM-65-21-120128	**342,018**	Sample Collected; >2X Background
JM-66-21-120128	**269,876**	Sample Collected; >2X Background
JM-67-21-120128	**39,167**	>2X Background
JM-68-21-120128	**89,914**	>2X Background
JM-69-21-120128	**167,740**	>2X Background
JM-70-21-120128	**381,092**	Sample Collected; >2X Background
JM-71-21-120128	**64,580**	>2X Background
JM-72-21-120128	**34,168**	>2X Background
JM-73-21-120128	**209,993**	Sample Collected; >2X Background
JM-74-21-120128	**225,252**	>2X Background
JM-75-21-120128	**79,640**	>2X Background

Table 3-2
Stationary Gamma Measurements Summary
Johnny M Uranium Mine
Grants Legacy Mine Sites
Grants, McKinley County, New Mexico
(Continued)

Stationary Location ID	Gamma Activity (Counts Per Minute)	Remark
JM-76-21-120128	**45,278**	>2X Background
JM-77-21-120128	**282,248**	Sample Collected; >2X Background
JM-78-21-120128	**245,596**	>2X Background
JM-79-21-120128	**122,636**	>2X Background
JM-80-21-120128	**33,214**	>2X Background
JM-81-21-120128	N/A	Omitted due to location
JM-82-21-120128	**228,461**	Sample Collected; >2X Background
JM-83-21-120128	**223,936**	>2X Background
JM-84-21-120128	**117,322**	Sample Collected; >2X Background
JM-85-21-120128	**96,349**	>2X Background
JM-86-21-120128	**63,323**	>2X Background
JM-87-21-120128	**24,853**	>2X Background
JM-88-21-120128	**265,129**	Sample Collected; >2X Background
JM-89-21-120128	**39,725**	>2X Background
JM-90-21-120128	**24,281**	>2X Background
JM-91-21-120128	20,139	
JM-92-21-120128	21,147	
JM-93-21-120128	19,710	
JM-94-21-120128	18,110	
JM-95-21-120128	21,234	
JM-96-21-120128	17,775	
JM-97-21-120128	21,082	
JM-98-21-120128	17,879	
JM-99-21-120128	17,472	
JM-100-21-120128	16,495	
JMBKGD-NE-21-120129	9,938	Background Location; Sample Collected
JMBKGD-NW-21-120129	13,502	Background Location; Sample Collected

Table 3-3
Laboratory Results for Radioisotopes
Johnny M Uranium Mine
Grants Legacy Mine Sites
Grants, McKinley County, New Mexico

Location	Description	Ac^{228}	Bi^{214}	Pb^{212}	Pb^{214}	K^{40}	Pa^{234m}	Ra^{226}	Tl^{208}	Th^{234}	U^{235}
Soil		pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g
JMBKGD-NE-31-120129	Background	1.41	2.64	1.05	2.41	16.1	5.52	2.64	0.448	2.7	0.0453
JMBKGD-NW-31-120129	Background	1.67	2.74	2.11	2.93	27.7	5.25	2.74	1.87	6.09	0.177
Background Average	Average Background Concentration	1.54	2.69	1.58	2.67	21.9	5.385	2.69	1.159	4.395	0.111
JM-54-31-120128	On-Site	1.37	**136**	1.23	**139**	25.3	**359**	**136**	0.592	**23.5**	**4.53**
JM-55-31-120128	On-Site	1.41	**127**	0.916	**136**	23.6	**85.6**	**127**	0.627	**85.7**	**4.26**
JM-65-31-120128	On-Site	0.275	**317**	**6.44**	**332**	29	**251**	**317**	0	**213**	**14.2**
JM-66-31-120128	On-Site	0.654	**112**	1.03	**112**	19.6	**38.4**	**112**	1.39	**25.8**	**4.69**
JM-70-31-120128	On-Site	1.14	**138**	2.22	**138**	20.9	**117**	**138**	0.769	**94.4**	**8.98**
JM-70-32-120128	On-Site	0.472	**157**	0.933	**155**	22.7	**149**	**157**	0.688	**92.8**	**6.98**
JM-73-31-120128	On-Site	1.71	**146**	1.8	**146**	19.3	**103**	**146**	1.14	**57**	**6.4**
JM-77-31-120128	On-Site	1.37	**83.8**	1.8	**84.6**	23.3	**134**	**83.8**	1.15	**113**	**6.95**
JM-82-31-120128	On-Site	1.08	**120**	**10.4**	**121**	23.3	**69.8**	**120**	1.98	**36.5**	**5.06**
JM-84-31-120128	On-Site	1.63	**13**	1.8	**13.4**	20.2	**19.8**	**13**	1.46	12.3	**0.763**
JM-88-31-120128	On-Site	-0.556	**234**	**5.67**	**242**	27.2	**207**	**234**	1.75	**193**	**14.6**

pCi/g: picoCuries per gram

Bold and highlighted values are greater than or equal to 3x the background average concentration.

Negative results are achieved because the difference between the sample and laboratory background standard derive a negative number. This is due to laboratory counting error, ultimately indicating a "non detect" result.

Table 3-4
Laboratory Results for Metals
Johnny M Uranium Mine
Grants Legacy Mine Sites
Grants, McKinley County, New Mexico

Location	Designation	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Ni	K	Se	Ag	Na	Tl	Sn	U	V	Zn
Soil		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
JMBKGD-NE-31-120129	Background	3000	2.2U	1.8	51	0.54U	0.54U	1100	3.5	2.2	9.9	7800	6.5	970	130	0.037U	1.1U	4.0	770	0.81	1.1U	110U	1.7	5.4U	2.1	8.9	19
JMBKGD-NW-31-120129	Background	6100	2.1U	7	100	0.64	0.53U	4600	7.4	7	3.5	27000	11	2800	270	0.036U	1.1U	7.7	2300	2.7U	1.1U	130	5.3U	5.3U	1.2	19	40
Background Average	Average Background Concentration	4550	2.15	4.40	75.5	0.64	0.535	2850	5.45	4.6	6.7	17400	8.75	1885	200	0.365	1.1	5.85	1535	1.76	1.1	130	3.50	0.535	1.65	13.95	29.50
JM-54-31-120128	On-Site	6600	2.2U	6.5	**330**	0.56U	0.56U	**9600**	5	3.9	7.4	13000	16	2500	180	0.037U	**3.9**	4.4	1400	**11**	1.1U	**810**	2.1	5.6U	**38**	**90**	**120**
JM-55-31-120128	On-Site	4300	2.1U	9.7	93	0.52U	0.52U	**11000**	2.9	2.7	5	9700	12	1800	200	0.035U	**7.3**	2.6	620	**25**	1U	100U	1.6	5.2U	**140**	**99**	18
JM-65-31-120128	On-Site	4300	2.3U	12	120	0.57U	0.57U	**11000**	2.8	2.3	6.9	7500	20	1800	160	0.053U	**13**	2.3U	640	**59**	1.1U	110U	1.1U	5.7U	**440**	**190**	14
JM-66-31-120128	On-Site	3300	2.3U	4.3	66	0.57U	0.57U	**13000**	2.5	3.7	3.2	6600	10	1300	170	0.039U	**3.7**	3.1	560	**15**	1.1U	110U	1.1U	5.7U	**43**	**75**	16
JM-70-31-120128	On-Site	4100	2.3U	**14**	170	0.56U	0.56U	**9700**	3.6	2.9	5.3	11000	16	1700	150	0.039U	**11**	3.1	670	**43**	1.1U	110U	1.1U	5.6U	**250**	**130**	18
JM-70-32-120128	On-Site	4000	2.3U	6.1	170	0.58U	0.58U	**14000**	3	3.1	4.6	8000	15	1700	160	0.039U	**9.9**	3.2	650	**45**	1.2U	130	1.2U	5.8U	**290**	**120**	18
JM-73-31-120128	On-Site	4400	2.2U	8.5	130	0.55U	0.55U	**33000**	3.7	3.3	5.3	9100	14	1900	200	0.037U	**4.7**	4.8	820	**33**	1.1U	110U	1.3	5.5U	**140**	**93**	22
JM-77-31-120128	On-Site	6500	2.5U	8.7	91	0.63U	0.63U	**10000**	5.9	5.9	9.9	14000	17	2500	200	0.046U	**13**	7	1400	**18**	1.3U	130	2.1	6.3U	**330**	**68**	36
JM-82-31-120128	On-Site	4700	2.1U	10	78	0.53U	0.53U	**16000**	3.8	3.2	4.9	12000	13	2100	200	0.036U	**7.6**	4	820	**26**	1.1U	110U	1.1U	5.3U	**150**	**160**	24
JM-84-31-120128	On-Site	9000	2.7U	6.5	100	0.77	0.67U	**18000**	8.3	7.9	15	19000	17	3000	270	0.045U	**1.3U**	11	2000	1.7	1.3U	130	2.2	6.7U	**320**	29	50
JM-88-31-120128	On-Site	5600	2.4U	**20**	87	0.59U	0.59U	8500	4	4.5	8.6	13000	19	2300	230	0.072U	**22**	5.1	1100	**76**	1.2U	120	2.9	5.9U	**330**	**160**	31

mg/kg: milligrams per kilogram

U - Sample was analyzed for but not detected

Bold and highlighted values are greater than or equal to 3x the background average concentration.